

# **The World of Work**

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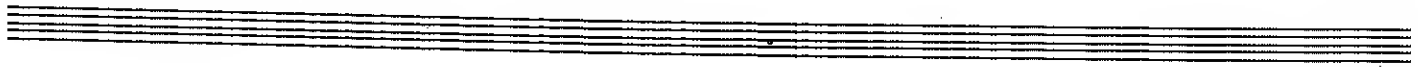
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## About This Book

Constant change is one of the most significant aspects of the U.S. job market. Changes in the size, age structure, and geographic location of the population; the introduction of new technology or business practices; changes in the needs and tastes of the public -- all of these alter the U.S. economy and affect employment opportunities. Population growth has spurred the need for workers to provide more housing, medical care, education, and other services and goods. The use of new technology has created, eliminated, or changed the nature of hundreds of thousands of jobs. The computer, for example, has given birth to an entire new group of occupations -- programmers, systems analysts, computer and peripheral equipment operators -- while at the same time it has decreased the need for inventory clerks, bookkeepers, and some other clerical workers. These changes require each individual to reexamine the impact of new technology on his or her job.

This booklet is an additional source of information to aid the individual in becoming more aware about the opportunities

that new technology offers. It provides detailed information about changes in the job market. This publication also provides, in an abbreviated form, the script for "IS TECHNOLOGY STEALING YOUR JOB?" and "WHERE WILL YOU WORK TOMORROW?", which are from the PBS television programs.

A nine-step process, prepared by Mr. David Perschau, noted job counsellor, is included in Chapter 5 to provide proven practical advice on how to find a job. This process works for all categories of individuals, whether they are unemployed, youth looking for the first job, workers in mid-career crisis or individuals interested in upgrading their job opportunities.

Chapters 6, 7 and 8 provide specific contact points for information regarding sources of career information, labor market information or special group career information. We hope you also see the "World of Work" television programs and interactive videodiscs to visually supplement the detailed information presented in this book.

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## Changes In The Job Market 2

As an individual planning for your career, you should learn about changes that are expected to occur in the job market. Your interests and abilities determine the occupation that attracts you, but future economic and social conditions will determine possible job opportunities. Fortunately, most changes that alter the demand for workers in various occupations occur gradually over several years. By analyzing the changing nature of the economy and the factors causing these changes, it is possible to project future industry and occupational employment. Although no one can forecast the future with certainty, these employment projections can help you learn about future opportunities in occupations that interest you.

This book provides background information useful for assessing the job outlook for many occupations. In it you will find information about expected changes in the population and the labor force, as well as employment projections for major industrial sectors and broad occupational groups.

### Population

Changes in population are among the basic factors that will affect employment

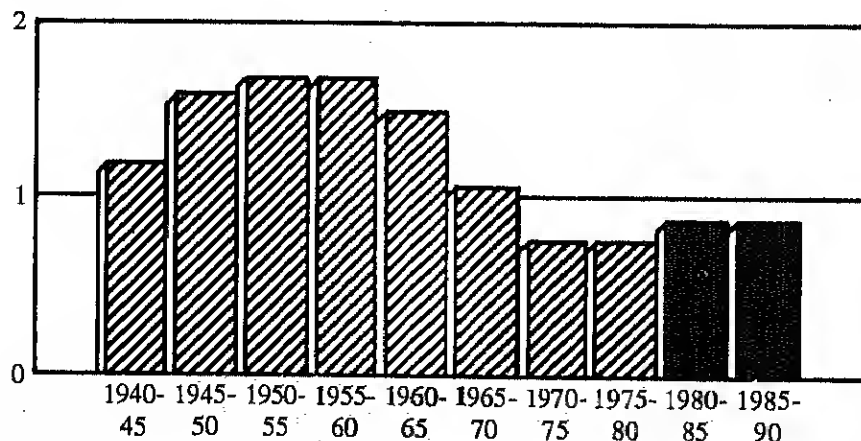
opportunities in the future. The demand for workers in any occupation depends ultimately on the goods and services sought by the public. Changes in the size and characteristics of the population influence the amount and type of goods and services demanded. Changes in population also affect the size and characteristics of the labor force -- the people who work or are available to work -- which in turn can influence the amount of competition for jobs in an occupation. Three population factors that will affect future employment opportunities are population growth, shifts in the age structure of the population, and movement of the population within the country.

Population Growth. The population of the United States has increased throughout the century. However, the rate of growth (the size of the annual increase) was declining until the post-World War II "baby boom," which lasted until the late 1950s. Since the 1960s, the rate of growth has declined again as shown in Figure 2-1.

The population was 226.5 million in 1980. It is expected to increase by about 0.9 percent a year during the 1980s, slightly faster than during the 1970s. Continued growth will mean more people to

Figure 2-1. Population Growth Trend

Average annual percent increase



SOURCE: Bureau of the Census

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provide with goods and services, causing greater demand for workers in many industries. The effects of population growth on employment in various occupations will differ. These differences are accounted for in part by the age distribution of the future population.

Age Structure. Because of the "baby boom," the proportion of people age 14 to 24 was high in the 1970s. Through the 1980s, as these young adults become older, the proportion of the population between the ages of 25 and 44 will swell. By 1990, nearly one-third of the population will be in this age group compared to 24 percent in 1970. As a result of the relatively low number of births during the 1960s and early 1970s, the number of people between the ages of 14 and 24 will decline in the coming decade. The number of people 65 and over will grow, but more slowly than in recent years. These changes in the age structure of the population will directly affect the types of goods and services demanded. For example, as the number of young people declines, the need for some education services will fall. When greater numbers of people from the baby boom establish families, they will require more housing and goods such as appliances.

Shifts in the age structure of the population also will affect the composition of the labor force. These effects are discussed in a later section.

Regional Differences. National trends in population may not be the same as changes in a particular region or locality. A nation as large as the United States is bound to vary from one place to another in population growth rates. For example, between 1970 and 1980, the population of the Northeast and North Central regions increased by 0.2 percent and 4.0 percent, respectively, compared with 20.0 percent for the South and 23.9 percent in the West, as shown in Figure 2-2. These differences in population growth reflect the movement of people to find new jobs, to retire, or for some other reason.

Geographic shifts in the population alter the demand for, and supply of, workers in local job markets. In areas with a growing population, for example, demand for services such as police and fire protection, water, and sanitation will in-

crease. At the same time, in some occupations more people looking for work in those areas could increase competition. Individuals investigating future employment opportunities in an occupation should remember that local conditions could differ greatly from national projections presented here.

## Labor Force

The size and characteristics of the labor force determine the number and type of people competing for jobs. In addition, because workers are a vital part of the production process, the size of the labor force affects the number of goods and services that can be produced. Growth, alterations in the age structure, and rising educational levels are among the labor force changes that will affect employment opportunities through the 1980s.

Growth. The civilian labor force consists of people with jobs and people looking for jobs. Through the late 1960s and the 1970s, the number of people in the labor force grew tremendously because many people born during the baby boom entered the job market, and women increasingly sought jobs. In 1980, the civilian labor force totaled about 105 million persons -- 63 percent of the noninstitutional population 16 years of age and older.

The labor force will continue to grow during the 1980s, but at a slower rate than in recent years, as shown in Figure 2-3. By 1990, the size of the labor force is expected to range from 122 to 128 million persons -- a projected increase of 17 to 22 percent over the 1980 level. Contributing to this anticipated growth will be the expansion of the working age population and the continued rise in the proportion of women who work. The labor force will grow more slowly between 1985 and 1990 than in the early 1980s. This slowdown will result from a drop in the number of young people of working age despite continued growth in the participation rate of women, as shown in Figure 2-4. A larger labor force will mean more people looking for jobs. However, because of shifts in the age structure, the employment outlook for many individuals will improve.

Age Structure. As a result of the baby boom, a large number of young people



Figure 2-2. Population Growth Varies Among the States

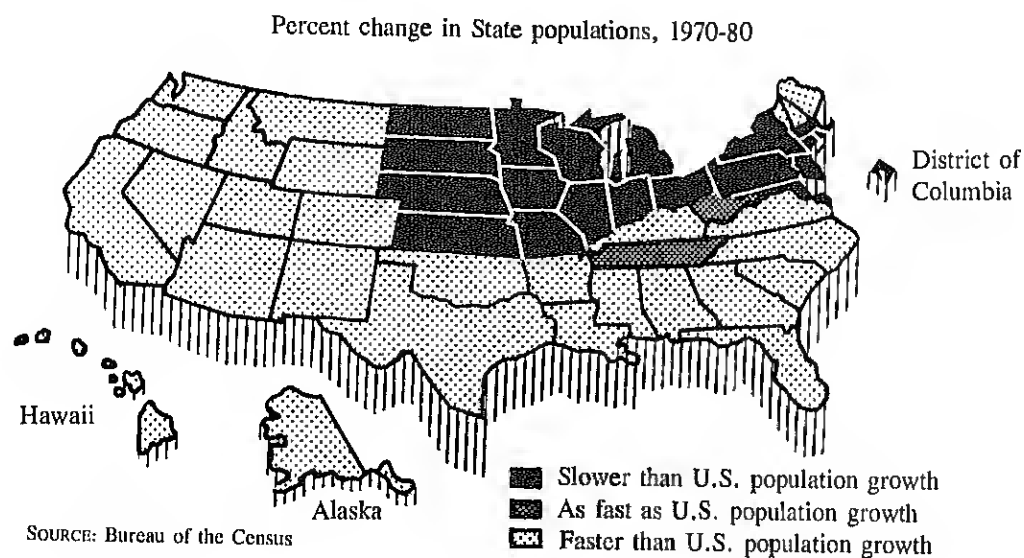
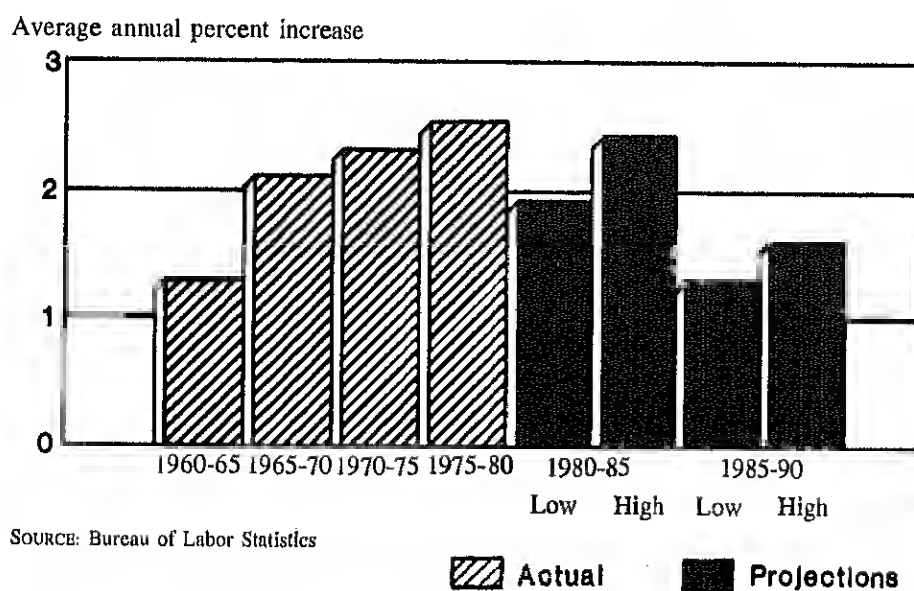
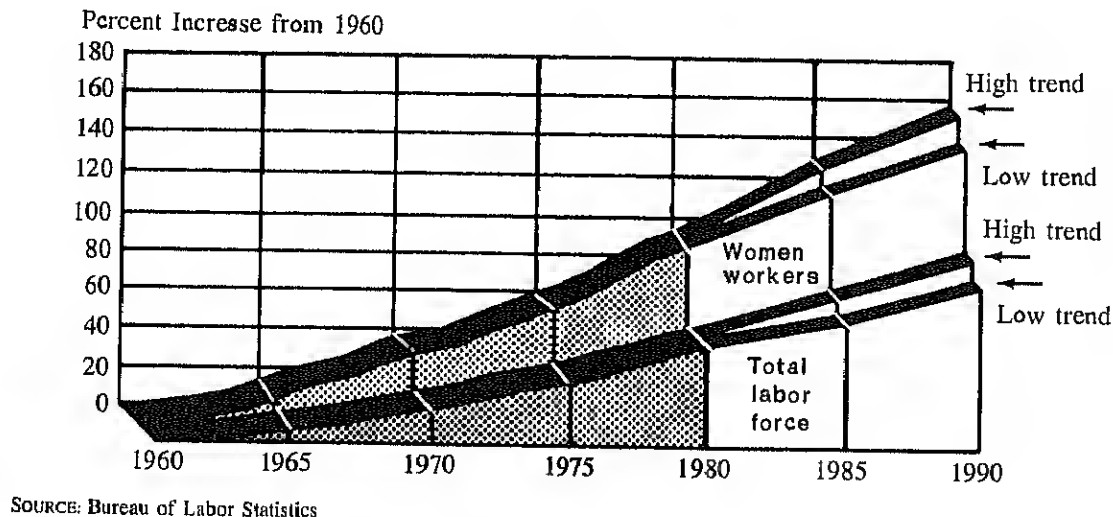


Figure 2-3. Labor Force Growth Will Slow During the 1980s



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Figure 2-4. The Number of Women Workers Will Continue to Grow Faster than the Total Labor Force



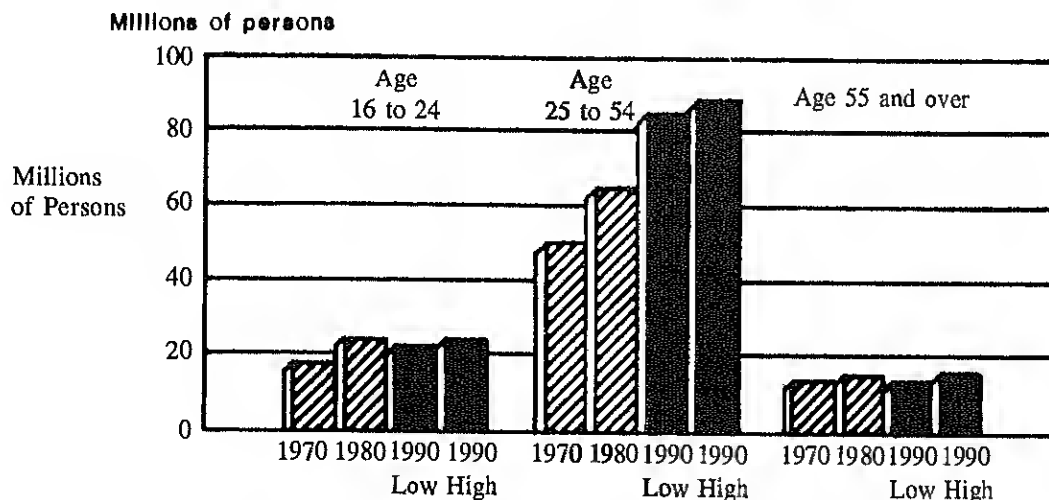
entered the labor force during the 1970s, increasing competition for many entry level jobs. As the number of people between 16 and 24 drops, there will be fewer first-time entrants into the labor force and as a result competition for entry level jobs should ease. The proportion of 25- to 54-year-olds in the labor force will swell as people born during the baby boom get older. The whole economy should benefit from this change because workers in this age group generally have work experience and are, therefore, more productive and less likely to be unemployed, as shown in Figure 2-5.

**Education.** Employers always wish to hire the best qualified persons available at the offered wage. This does not mean that they always choose those applicants who have the most education. However, individuals looking for a job should be aware that the higher educational attainment of the labor force as a whole could increase competition in many occupations. Persons contemplating dropping out of high school should recognize that a high school education has become standard. The educational attainment of the labor force has risen from 11.1 years of school in 1952

to 12.7 years in 1980. Many technical, craft, and office occupations now require postsecondary vocational education or apprenticeship because employers prefer to hire trained applicants rather than provide training. Thus, high school dropouts are likely to be at a serious disadvantage when seeking jobs that offer better pay or advancement.

Traditionally, a college education has been viewed as a gateway to better pay, higher status, and more challenging work. As college education has become more widespread, the proportion of workers in the labor force who have completed at least 4 years of college has risen to 19 percent in 1980. Recent experience has shown, however, that the traditional view of a college degree as a guarantee of success has not been matched by reality. Between 1970 and 1980, employment of college graduates grew 84 percent. The proportion employed in professional, technical, and managerial occupations, however, declined because these occupations did not expand rapidly enough to absorb the growing supply of graduates. As a result, one out of four college graduates who entered the labor force between 1969 and 1978 took jobs

Figure 2-5. Through the 1980s, the Number of Workers in the Prime Working Ages Will Grow Dramatically



SOURCE: Bureau of Labor Statistics

not usually considered by graduates to be appropriate to their education and abilities. The proportion of graduates in clerical, lower level sales, and blue-collar occupations grew.

Analysis of the future demand for college graduates, and of future supply, indicates that more college graduates will be available than will be needed to fill jobs that require a college degree. Not all occupations requiring a college degree will be overcrowded, however. Systems analysts, programmers, and engineers are examples of occupations where college graduates are expected to be in very strong demand.

But despite widespread publicity about the overall poor job market for college graduates, graduates still have an advantage over other workers. They are more likely to be employed and to hold the highest paying professional and managerial jobs. Persons interested in occupations that require a college degree should not be discouraged from pursuing a career that they believe matches their interests and abilities, but they should be aware of job market conditions.

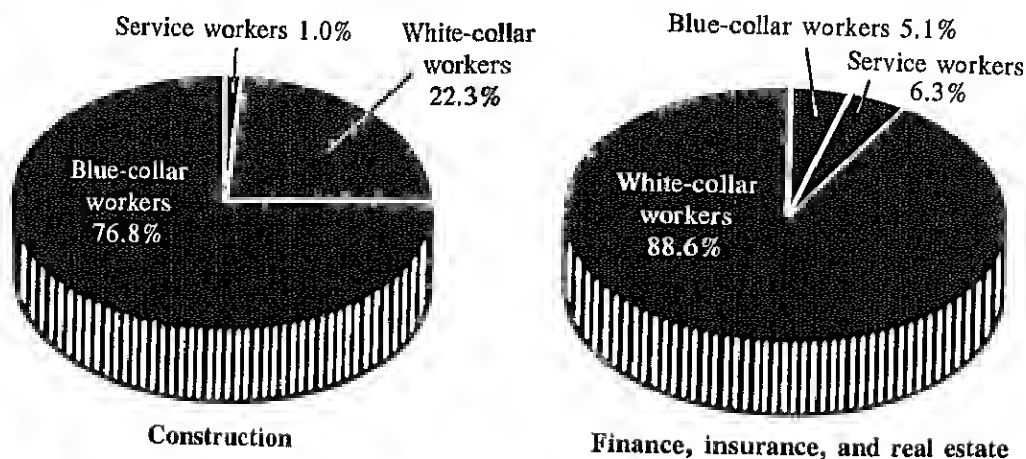
#### Employment

The previous sections discussed trends in the population and the labor force -- two factors that affect employment opportunities. Other factors include the policies of the Federal Government, the rate of inflation, and the availability of energy. Changes in these and related factors affect the amount and type of goods and services that will be demanded in the future. If the demand for an industry's output increases in the future, more workers generally will be hired to increase production and employment in the industry will grow. Growth in an occupation is closely related to the growth rates of industries in which the occupation is found. For example, growth in the construction industry would result in an increase in employment of blue-collar workers, as would growth in mining, manufacturing, or transportation industries that also employ a high proportion of blue-collar workers. Likewise, growth in finance, insurance, and real estate would result in an increase in demand for white-collar workers, as shown in Figure 2-6.

The Bureau of Labor Statistics has prepared three sets of projections of

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Figure 2-6. Industries Differ Substantially in the Kinds of Workers They Employ



SOURCE: Bureau of Labor Statistics

employment in industries and occupations. Referred to as the low-trend, high-trend I, and high-trend II alternatives or scenarios, the projections are based on different assumptions concerning growth in the labor force, unemployment, output, productivity, and other factors. The low-trend projection assumes a decline in the rate of labor force growth, moderately high employment levels throughout the decade, continued high inflation, and modest increases in production and productivity. The two high-trend scenarios are more optimistic, assuming a slowdown of inflation, and lower unemployment rates than the low-trend scenario. The high-trend I scenario assumes a faster growth of the labor force but slower growth of productivity than the high-trend II scenario.

The following sections present employment estimates from the low-trend and the higher of the high-trend scenarios. Together these two estimates define the range of the projected industry and occupational employment growth.

## Industrial Profile

In discussing employment trends and projections in industries, it is useful

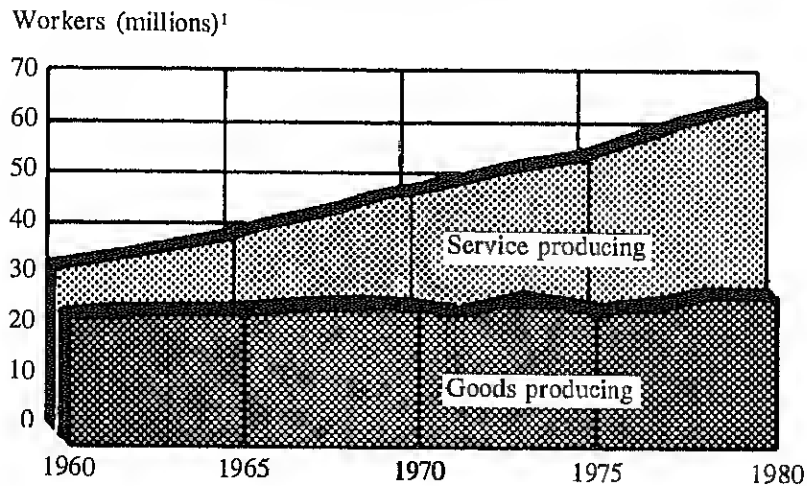
to divide the economy into nine industrial sectors under two broad groups -- service-producing industries and goods-producing industries. Over two-thirds of the Nation's workers currently are employed in industries that provide services such as health care, trade, education, repair and maintenance, government, transportation, banking, and insurance. Industries that produce goods through farming, construction, mining, and manufacturing employ less than one-third of the country's work force.

## Service-Producing Industries

Employment in service-producing industries has increased at a faster rate than employment in goods-producing industries, as shown in Figure 2-7. Among the factors that have contributed to this rapid growth are rising incomes and living standards that result in greater demand for education, health care, entertainment, and business and financial services. In addition, the growth of cities and suburbs brought a need for more local government services. Further, because many services involve personal contact, fewer people have been replaced by machines in service-producing industries.

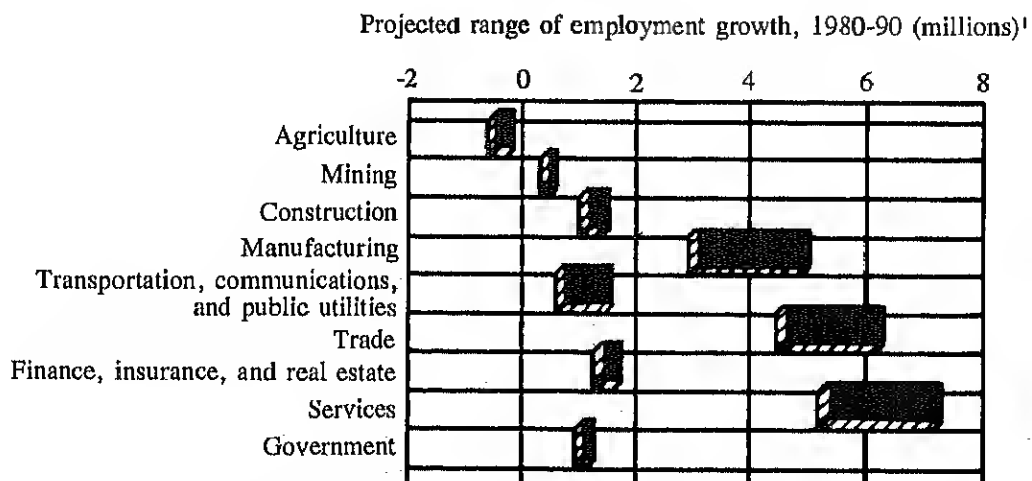
Employment in service-producing

Figure 2-7. Industries Providing Services Employ More People Than Those Providing Goods



<sup>1</sup>Wage and salary workers, except for agriculture, which includes self-employed and unpaid family workers  
SOURCE: Bureau of Labor Statistics

Figure 2-8. Through the 1980s, Changes in Employment Will Vary Widely Among Industries



<sup>1</sup>Wage and salary workers, except for agriculture, which includes self-employed and unpaid family workers  
SOURCE: Bureau of Labor Statistics

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industries is expected to increase from 65.7 million workers in 1980 to 83.5 million in 1990, or by 27 percent. Growth will vary among industries within the group, as shown in Figure 2-8. The following paragraphs summarize recent trends and the projections of employment in the five industrial sectors that make up the service-producing industries.

Transportation, Communications, and Public Utilities. This is the slowest growing sector of the service-producing industries. Between 1970 to 1980, employment in this sector increased only one-third as fast as in the service-producing industries as a whole, due largely to declining employment requirements in the railroad and water transportation industries. However, even in the communications industries where demand increased greatly, technological innovations limited employment growth.

Between 1980 and 1990, employment in the transportation, communication, and public utilities sector could rise from 5.5 million to 7.1 million workers. Communications industries could grow 27 percent, from 1.4 million to 1.7 million workers. More efficient communications equipment is likely to keep employment from growing as rapidly as output.

Although employment in railroad and water transportation industries is expected to decline, employment in other transportation industries such as air, local transit, and trucking will increase. Employment in transportation as a whole could rise by 18 percent.

Demand for electric power, gas utilities, and water and sanitary services will increase through the 1990s as population and industry grow. Employment in industries that deliver these services could increase from 834,000 to 1.1 million workers.

Trade. Both wholesale and retail trade employment have increased as the population has grown and as rising incomes have enabled people to buy a great number and variety of goods. Retail trade grew slightly faster than wholesale trade during the 1970s. Between 1980 and 1990, wholesale and retail trade employment could grow from 20.6 million to 26.8 million workers. Employment will continue to increase faster in retail

than in wholesale trade. Employment will rise despite the use of some labor-saving innovations such as self-service merchandising and computerized inventory systems.

Finance, Insurance, and Real Estate. This sector grew as these industries expanded to meet the financial and banking needs of a growing population. Between 1980 and 1990, employment in this section could rise from 5.2 million to 6.9 million workers. A growing population will keep demand high for credit and other financial services. In addition, businesses will need assistance to finance the expansion of their plants and the purchase of new equipment.

Services. This sector includes a variety of industries, such as hotels, barber shops, automobile repair shops, business services, hospitals, and non-profit organizations. Employment in this sector increased 37 percent between 1970 and 1980. A high demand for health care, maintenance and repair, advertising, and commercial cleaning services has been one of the forces behind this growth.

From 1980 to 1990, employment in service industries is expected to increase from 26.2 million to 33.5 million workers, and will provide more new jobs than any other industry sector. Employment requirements in health care are expected to grow rapidly due to population growth (particularly the elderly), rising incomes and greater health insurance coverage which increases people's ability to pay for medical care. Business services, including accounting, data processing, and maintenance, also are expected to grow rapidly.

Government. Increased demand for services provided by government -- administration, health and welfare and police and fire protection -- caused employment in the government sector to rise about 36 percent between 1970 and 1980. Employment in State and local governments expanded 47 percent compared to 13 percent for the Federal Government.

As a result of public desire to limit government growth, employment is expected to rise only 14 percent. Most of this growth will be in State and local government.

### Goods-Producing Industries

Employment in goods-producing industries rose only 10 percent between 1970 and 1980. Growth varied greatly by industry, however. Between 1980 and 1990, employment in goods-producing industries is expected to increase from 29 million to 35.5 million workers. Significant variation in growth rates is expected to continue among the four sectors that make up this group, as shown in Figure 2-8.

Agriculture. Employment in agriculture declined 7 percent between 1970 and 1980, while farm output increased through the use of more and better machinery, fertilizers, feeds, pesticides, and hybrid plants.

Domestic demand for food will increase only slightly through the 1980s. The worldwide demand for food will rise because of population growth, and exports of food will increase through the next decade. Farm productivity, however, will continue to improve -- although more slowly than in the past -- and employment is expected to decline even as production rises. Between 1980 and 1990, employment is projected to drop to 2.6 million workers.

Mining. Employment rose about 65 percent between 1970 and 1980, mostly because of the country's renewed emphasis on developing energy sources. As the development of fuel resources, especially coal, continues through the next decade, employment in the mining sector is expected to grow to 1.2 million workers. In some non-energy industries such as iron ore mining, employment will grow more slowly than in the sector as a whole. Improvements in mining techniques in these industries will permit increased output with only a slight increase in employment.

Contract Construction. Despite several economic slumps, employment rose 25 percent because of a strong demand for houses, apartments, office buildings, and highways.

During the late 1980s, the demand for new housing is expected to remain high as the number of households continues to increase. Business expansion and maintenance of existing buildings also will require more construction. By 1990, employment in the construction sector is expected to include 5.6 million workers.

Manufacturing. Although a growing population and rising incomes increased

demand for almost all types of goods, improved production methods and stiff foreign competition limited employment growth in many manufacturing industries during the 1970s. In fact, the growth in employment over the decade (5 percent) was less than in any other sector except agriculture.

Manufacturing employment could rise to 25.3 million workers by 1990.

Manufacturing is divided into two broad categories, durable goods manufacturing and nondurable goods manufacturing. Employment in durable goods manufacturing is expected to increase 30 percent as rising population and incomes increase demand for consumer durables, such as automobiles and appliances, and rising business investment increases demand for capital goods, such as machinery. Employment in nondurable goods manufacturing will increase more slowly, reflecting the tendency of consumers to spend less of their budget on staples such as food and clothing as their incomes rise.

Growth rates will vary among individual industries within each of these categories. In nondurable good industries, for example, employment in bakeries is expected to decline, while a moderate rise in employment is projected for the paper industry. Among durable goods, computer equipment manufacturing is expected to undergo a rapid employment increase.

### Occupational Profile

Customarily, occupations are divided into white-collar occupations -- professional and technical, managerial, clerical, and sales jobs; blue-collar occupations -- craft, operative, and laborer jobs; service occupations; and farm occupations.

Growth rates among these groups have differed markedly since 1960. White-collar workers now represent about half of the total labor force up from 43 percent in 1960, as shown in Figure 2-9. The number of service workers also has risen rapidly, while the blue-collar work force has grown only slowly and farm workers have declined. The following section describes expected changes in employment among broad occupational groups between 1980 and 1990 as shown in Figure 2-10.

Professional and technical workers. This category includes many highly trained



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workers, such as scientists and engineers, medical practitioners, teachers, entertainers, pilots, and accountants. Employment is expected to grow to 20.7 million workers by 1990.

Greater efforts in energy development and industrial production will contribute to a growing demand for scientists, engineers, and technicians. The medical professions can be expected to grow as the health services industry expands. The demand for systems analysts and programmers to further develop and utilize computer resources is projected to grow rapidly.

Some occupations in this group will offer less favorable job prospects. For example, employment of secondary, college and university faculty is expected to decrease somewhat as a result of declining school enrollments. Other jobs, such as a lawyer or architect, are expected to grow substantially but will be very competitive because they attract many applicants.

**Managers and Administrators.** This group includes workers such as bank officers and managers, buyers, credit managers, and self-employed business operators. By 1990, this group is expected to offer 11.3 million job opportunities.

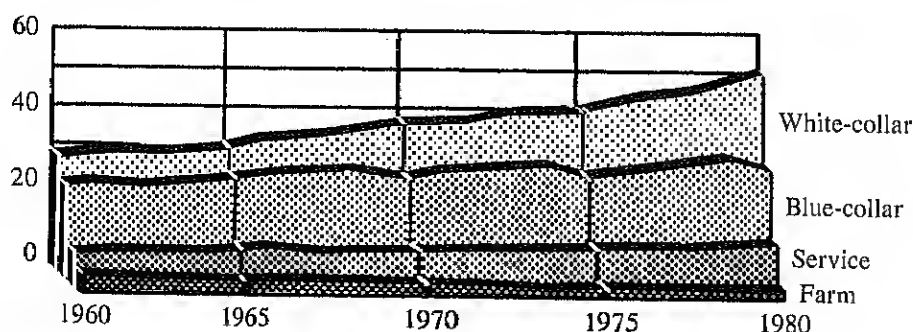
Changes in business size and organizational structure have resulted in differing

trends for self-employed and salaried managers. The number of self-employed business managers will continue to decline as large corporations and chain operations increasingly dominate many areas of business. Some small businesses, such as quick-service groceries and fast-food restaurants, still will provide opportunities for self-employment, however. The demand for salaried managers will continue to grow as firms increasingly depend on trained management specialists, particularly in highly technical areas of operation.

**Clerical Workers.** This group constitutes the largest occupational group and includes bank tellers, bookkeepers, and accounting clerks, cashiers, secretaries, and typists. Employment in these occupations is expected to grow from 18.9 million

Although new developments in computers, office machines, and dictating equipment will enable clerical workers to do more work in less time and will change the skills needed in some jobs, continued growth in employment is expected in most clerical occupations. Exceptions are keypunch operators, stenographers, and airline reservation and ticket agents -- occupations that are expected to decline as improved technology reduces the need for workers. Conversely, the more extensive

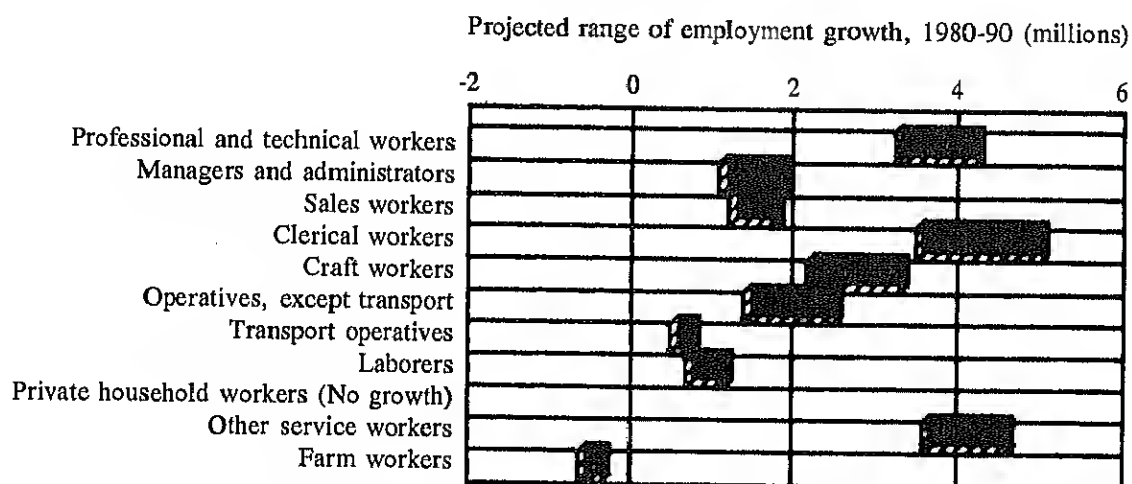
Figure 2-9. White-Collar Workers Have Been the Largest Occupational Group for More Than Two Decades



SOURCE: Bureau of Labor Statistics



Figure 2-10. Through the 1980s, Changes in Employment Will Vary Widely Among Occupational Groups



SOURCE: Bureau of Labor Statistics

use of computers will greatly increase the employment of computer and peripheral equipment operators.

**Sales Workers.** These workers are employed primarily by retail stores, manufacturing and wholesale firms, insurance companies, and real estate agencies. Employment in this group is expected to grow by 28 percent during the 1980s.

Much of this growth will be due to expansion in the retail trade industry, which employs nearly one-half of these workers. The demand for both full- and part-time sales workers in retail trade is expected to increase as the growing population, along with its geographic movements, requires more shopping centers and stores. Despite the use of labor-saving merchandising techniques such as computerized checkouts, more stores and longer operating hours will cause employment to increase.

**Craft Workers.** This group includes a wide variety of highly skilled workers, such as carpenters, tool-and-die makers, instrument makers, all-round machinists,

electricians, and automobile mechanics. Employment in this group is expected to increase to 15.8 million workers by 1990.

Employment in many craft occupations is tied to trends in a particular industry. Employment in nearly all construction trades, for example, is expected to grow because of a high demand for residential construction and business investment in new plants.

In contrast, because of advances in printing technology, very little growth is anticipated in the printing crafts.

**Equipment Operators.** This group includes production workers such as assemblers, production painters, and welders. Between 1980 and 1990, employment is expected to rise to 12.2 million workers. Employment of operatives is tied closely to the production of goods because the majority of these workers are employed in manufacturing industries. The projected slow growth of some manufacturing industries, along with improved production processes, will hold down the demand for many of these workers.

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**Service Workers.** This group includes a wide range of workers; firefighters, janitors, cosmetologists, and bartenders are a few examples. Most of these workers are employed in service-producing industries. They make up the fastest growing occupational group. Factors expected to increase the need for these workers include the rising demand for health services as the population becomes older and -- as incomes rise -- more frequent use of restaurants, beauty salons, and leisure services. By 1990, employment of service workers is expected to increase by 32 percent, up to 19.2 million workers.

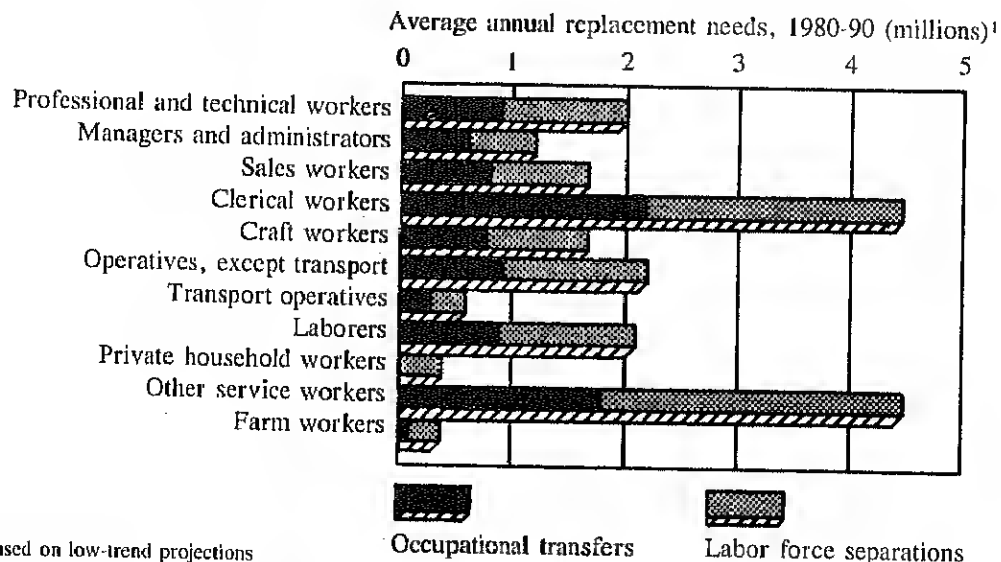
**Farm Workers.** This group includes farmers, farm managers, and farm laborers. Employment of these workers has declined for decades as farm productivity has increased as a result of fewer but larger farms, the use of more efficient machinery, and the development of new feeds, fertilizers, and pesticides. By 1990 the number of farmworkers is expected to decline from 2.7 million in 1980 to 2.2 million workers.

## Job Openings

Projected employment growth is one indicator of future job prospects because it identifies the occupations in which demand for workers is increasing. Another is the total number of job openings that are expected to be generated from replacement needs as well as employment growth. Replacement needs result from the constant changes occurring in the work force as workers transfer to other jobs or stop working. Some workers transfer to other occupations either as a step up the career ladder or to change careers. Some workers temporarily stop working, perhaps to return to school or care for a family. Furthermore, some workers leave the labor force permanently. These movements result in job openings for people outside the occupation. When these replacement needs are considered it becomes apparent that even occupations in which employment is expected to decline or to increase slowly can offer many job opportunities.

The number of replacement openings varies among occupations, as shown in Figure 2-11. These variations reflect

Figure 2-11. Replacement Needs Result from Occupational Transfers and Labor Force Separations



differences in the average age of workers in the occupation, the earnings and status associated with the job, and the level of required training. Construction laborers, for example, can quit and later easily find a similar or better job. On the other hand, physicians have few occupations of equal status and pay to which they could transfer. They also have invested a great deal of time and money in preparing for their careers. As a result the replacement rate is much higher for laborers than for physicians.

This chapter has summarized a number of demographic, economic, and other factors that have and will continue to affect the employment outlook in this country. The next chapter will discuss in more depth a more fundamental and pervasive factor - the impact of technological change.

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# Is Technology Stealing Your Job? 3

For a time, in the latter part of the 20th century, an innovative people called "Americans" led their fellow earthlings into a new age of technology, including the pioneering exploration of space.

But as one recent graduate wonders aloud, "If we're so smart, how come there are so few jobs for us when we finish school?"

Virtually all of today's "high technology" fields are the result of American research and development: space technology, computers, satellite communications, lasers, microprocessors, fiber optics, bioelectronics.

"Can a housewife become a high tech worker?" one housewife asks rhetorically. "A lot of women have to work and want good jobs, but too many give up before they've really tried. I was determined not to do that."

American technology is still the envy of the world, but our lead in some areas has diminished dramatically. Often American technology is used more effectively by our world trading partners than ourselves. The result is lost jobs and a diminished competitiveness.

"It used to be that just about any college degree would get you a pretty good job," recalls Pashir Datt, an insurance marketing manager. "I was shocked when my engineering degree couldn't get me a job in the New York City area. There just weren't any."

Perhaps the most far-reaching impact on our lives has been due to changes in jobs caused by new technology. It is a trend that will continue.

"Yeah, tell me about it. I've been out of work for 18 months," says a dejected Michael Farmer, unemployed autoworker. "Some say the auto business is booming again, but it's not booming for me. I need a paycheck!"

Some jobs are disappearing, but some new ones are being created.

How about you? Is technology stealing your job?

Modern technology made its first big imprint on America in Lowell, Massachusetts in the early 1800s. At that time, ninety percent of all Americans worked on farms. But the coming of the textile mills changed all that. Turning

American fibers into cloth offered jobs and the possibility for more than just scratching out enough to eat on the marginal New England farms of that era.

Women worked in the mills first; later children did, too. The industrial age had begun in America. Even farming was affected by the new technology requiring fewer workers. By 1990, only half of the people worked on farms. Most of the rest worked in factories, on railroads, and in construction. From an economy based on agriculture, we moved to industry. More importantly, the rate of technological change began to accelerate at an even faster pace.

Today, in some of the old mills in Lowell, another major transformation of America is taking shape -- the technology for the age of information.

This technology is being propelled by the silicon chip. Computers and high-speed direct communications are changing America so drastically, completely, and far more rapidly than the old textile mills did in their time. These changes affect jobs, although at a somewhat slower, evolutionary pace. Whatever happens to jobs and the nature of work is important in planning your own career. Let's look at the impact of high technology on individuals and on all of us collectively.

The United States is going through a period of significant change. Yet in a country with a history of far-reaching change, this should not be surprising. Generally, we have seen change, particularly technological change, as beneficial.

What is happening, and what has many working Americans concerned, is what the current changes are doing to jobs. Clearly, we are moving from an industrial to a post-industrial society.

Automation is eliminating some jobs and changing the nature of many others. Combined with dispersal of manufacturing around the world, employment of Americans in manufacturing has grown more slowly than other areas of employment.

If we look at the trend in manufacturing jobs as a percentage of the labor force dating back to 1900, we can see that goods-producing jobs have been declining as a percentage of the work force since about 1950. Unemployment rates were only slightly impacted due to offsetting increases in

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service jobs, trades, and government work.

Then, during the recession of 1981 and 1982, the rise in employment leveled off and the unemployment rate began to grow to the highest point since the Depression. The numbers of people employed in manufacturing began to decline.

It may be useful to draw a parallel between what is happening in goods-producing and what happened earlier in agriculture. Until about 1910, farm jobs rose in numbers but declined as a percentage of workers, much in the same way goods production has declined recently. A rise in productivity often decreases the number of workers required. In 1982, manufacturing ceased to be the dominant American employer just as agriculture had in 1910.

Some of these trends result directly from high technology, principally the new technologies of computers, microprocessors and communications. One of the changes is in how technology reaches the workplace. The days of individual inventors, single-handedly spawning whole new industries, is almost gone. More likely is the evolution of technology in places like the Massachusetts Institute of Technology. Developments here, and in laboratories like these, are beginning to affect all of us -- how we work, where we work, and the kind of work we do.

With these trends, the world of work is changing rapidly. Computers and communications are beginning to dominate the workplace. The modern office is a case in point and shows how emerging technologies affect jobs. There are 19 million more clerical, professional, managerial, technical and sales workers than blue collar workers, whom we might define as craft and semi-skilled workers and laborers.

Despite current emphasis on office automation, productivity in offices has increased by only about 4 percent in ten years, but will increase much more in the next ten. Jobs for women are increasing at a time when more and more women choose to work outside the home.

At the same time, traditional manufacturing jobs are gradually decreasing. Three factors seem to be involved: transfer of manufacturing industries to cheaper foreign labor areas, increased use of factory automation (an 85 percent increase

in productivity during the past decade), and changing technologies that are less labor-intensive.

Two other important changes are affecting the world of work. First is the growth of small business. Seventy-five percent of all new jobs will be generated by companies employing fewer than 100 persons. And many small businesses will grow as a result of emerging high technology developments.

A great many of these jobs in small businesses will be in service areas. And a great many of the service jobs will require new technical skills and may be easier as a result of changing technologies. Pay scales may be lower than in manufacturing jobs.

In the past, advancing technologies have tended to generate bigger and bigger plants to obtain the benefits of large-scale production.

In the emerging high technology age, the opposite may be true. As a matter of fact, even "cottage" industries may re-emerge as viable business entities. Home computers and telecommunications may usher in a new kind of employment.

Another way in which the world of work is changing is the location of jobs. With growth of industries less dependent on raw materials, businesses tend to migrate to new areas on the basis of lifestyle, environment, and quality of life. The most significant trends have been the migration of jobs to the sunbelt states and from cities to suburbs. This is particularly true of the high-tech industries, where the ability to attract talented employees is a prerequisite for success in business.

All this seems to mean that there is some good and some bad news. Although we face the highest unemployment since the 1940s, there are many jobs. It is estimated that by 1990, the total number of new jobs should increase by about 21 million (an average estimate). Yet where these jobs are, and how they will be done, should be quite different than in the past. This much seems certain: the better jobs will require higher skills than in the past, and pay scales for knowledge workers will be generally higher than those traditional semi-skilled and labor fields that remain unchanged. However, many jobs will become easier to perform and thus may command

lower wages than related jobs of the past.

An important question is, "Which group will you be in?" It should be obvious that many workers must move from traditional blue collar to white collar jobs in order to be employed at comparable pay.

How well you and your children do may depend on decisions you make now. That is what this "World of Work" program is about. It should enable you to answer the question, "Is technology stealing your job?"

We begin with computers because of their importance to most jobs. Although it is easy to lose perspective about computers, they have become so useful and inexpensive that they are being applied at virtually every level of human enterprise. Conversely, employees are increasingly required to understand the use of computers as they pertain to their jobs.

Stephen Jobs, who founded Apple Computer in his now famous garage, used his computer knowledge to build one of the largest personal computer companies in the country.

"Today's technology explosion was touched off by computers," says Jobs. "They are everywhere -- in toys, in banks, in grocery stores, in watches, and in space. Over a million computers were sold last year alone."

But people who design computers say it is only the beginning. Lee Thomas of Bell Laboratories compared our progress in computer technology to the time when cavemen had just acquired fire. "It's good, but we don't know yet how good."

The problem is that many people are still intimidated by computers. We tend to think they must be complicated because they do so much. It really isn't so. During the past 30 years, computers have shrunk from a wall of tubes to a cabinet of transistors. Today they have become so small that they are difficult, or even impossible, to see with the naked eye.

The silicon chip used in the computer contains thousands of circuits. The chip is in itself, a tiny computer, which we now call a "microprocessor." These are so important that many of us think they are the key to the future and are at the very heart of the technology that will provide new jobs.

The impact of microprocessors, or

computer chips, is already important in regard to jobs. For reasons having to do more with availability of technical personnel than raw materials, the San Francisco area has become one of the centers of computer technology.

Indeed, the growth of high technology computer companies has been so great just south of San Francisco Bay that the area has been labeled "Silicon Valley." To give you an idea of the impact on jobs, in 1983 there were 161,000 employees directly involved with computer chip technology in an industry that didn't even exist a little more than a decade earlier. However, you should not get the idea that these are all high-paying jobs. They pay less on the average than other goods-producing jobs.

Not all computer industry jobs are in the Silicon Valley. Similar high technology companies are opening all across the country in such diverse places as North Carolina, Virginia, Arizona, Texas, Florida and Illinois.

Applications of computers are limited only by the imagination and software development needed to operate the systems. Small computers are finding their way into businesses of every size, homes, and school rooms.

In a technology as dynamic as computers and microprocessors, there will continue to be career opportunities. However, there will be many times more jobs available that use computers as tools.

In the computer field itself, there have been changes in jobs available. As less emphasis is placed on data processing centers and programming becomes easier, there are fewer jobs in programming and more in marketing, manufacturing of computers and components, and servicing. As computers become smaller, easier to use, and less expensive, they are operated more often by managers and office workers, rather than by data processing professionals.

Application of high technology products, such as computers, encompasses all fields but has a special relationship to communications technology.

"Two developments in the last ten years have drastically changed communications," says Fred McKnight of Bell Laboratories.

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"First, the microprocessor makes message control and high-speed complex switching possible. Microprocessors also make it feasible and economical to create special-purpose networks and to use the telephone system for data exchange -- simply by connecting a computer to a telephone communications system. We're now working on future generations of information processors."

"Computers have brought about another important means of communication," McKnight continues. "Digital communications techniques convert your voice to a series of on-off pulses. This permits transmission of very large volumes of information at extremely high speeds with great accuracy."

But even more gigantic strides are being made in other areas of communications technology.

Fiber optics -- thin, glass-like strings -- are capable of sending and receiving hundreds of two-way messages simultaneously. In France, the national telephone company is taking a bold leap from existing copper telephone wires to fiber optics, rewiring that country's telephone and communications system.

In the electronic home of the 1990s and beyond, not only will the microwave oven, the thermostat, the fire or alarm system, and the stereo be controlled by microprocessors, but an array of communications equipment and services will be controlled by the home personal computer.

A small dish antenna on the exterior of the house will receive satellite transmissions directly. It will be possible to present education, training, and entertainment programs all across the country at the same time.

Two-way cable communication is being used in some of our present cable TV systems. Warner-Amex operates a two-way cable network called "QUBE" in Columbus, Ohio, providing entertainment, information and instruction. Users communicate with the QUBE computer. Such two-way capability has implications for everything from interactive instruction for children to calling the fire department in case of fire. Two-way systems can be used for games or even instant opinion polls.

Leo Murray, of Warner-Amex, explains: "An experimental videotext system allows

the individual subscriber to receive special video program materials -- including print material. By using a special button device, the subscriber can respond to the program. For example, a QUBE subscriber can order a free sample offered during a program or take a quiz in a television training course simply by using a designated button. According to some forecasts, by 1990 twenty percent of all retail sales in the United States will be made by videotext.

As in any expanding technology, jobs reflect the advances. Inasmuch as telecommunications applications are increasing, technical jobs -- from engineering and development to installation and maintenance of equipment -- have been expanding rapidly. Presently the emphasis is on hardware but as systems become operational, software developers and users will also increase rapidly.

Five years ago there wasn't even a job description for a hospital telecommunications systems director. Yet the explosion of communications technology and the need for quick response has developed this field rapidly.

Not long ago, results of a patient's blood test would take as long as an entire day. A doctor would order the test, a chief nurse would take a blood sample, someone else would take it to the laboratory, medical technicians would run the test, and a report would have to go back through channels for the doctor to see on his next rounds.

Today through centralized hospital telecommunications, the doctor can call up a patient's chart on a viewscreen and order the test right on the chart. At terminals in the nurse's stations and in the laboratory, personnel are involved immediately and a time limit is established for the laboratory workup. The results come back electronically in a fraction of the time it used to take, providing quicker diagnosis and improved efficiency.

The combination of computers and communications technologies with large collections of information -- called "data bases" -- has produced information technology. What all this has done is to make available to users, even individuals, a vast store of knowledge. What we must do is learn how to use all of this access to



information effectively.

Robert Smith of Advanced Technology Laboratories offers this capsule summary: "In one sense, information technology has been around ever since man began to record information on stone tablets. Libraries were invented in an attempt to collect information in one place for convenient access by users. Now libraries are being changed radically and services expanded.

"Mass storage, data banks with on-line computer access, high-speed digital communications and video techniques are already in use in many large libraries -- particularly university and special subject collections such as the National Medical Library in Washington, D.C."

Information is becoming available by means of an information network among libraries. Considering the fact that 82 percent of all public libraries in the United States are in towns fewer than 25,000, the advent of this technology endows libraries with new and dynamic value to their communities.

A pioneer in videodisc technology, Jeffrey Silverstein, describes the videodisc as a durable, convenient, efficient way to "store" large volumes of data.

"It was developed with the idea of being able to put a complete movie on a single disc. But as so often happens with technology, its use offered a whole new kind of application. Increasingly, the videodisc is becoming important to information science and teaching."

"A single videodisc can store almost 54,000 individual pictures of information. Each picture could present a live television image, a photo slide of information, or data. It is an ideal means for storing large quantities of printed or graphic information for easy and quick display on the TV screen."

"The ability to access randomly any of the 54,000 pictures by using a computer hooked up to a videodisc player is a major advantage. This makes the videodisc machine an 'interactive' means for learning as it responds to the individual's own pace."

"An interactive videodisc can teach one-on-one in ways that up to now were impossible. For example, the 'World of Work' videodisc interacts with a person who is making career choices. The videodisc

displays information that helps the individual understand job options. The information can even be programmed to help establish career selection criteria."

"Even at that, we have only begun to tap the possibilities of videodisc technology. For example, videodiscs may be incorporated into industrial robots so that the robot carries with it instructions for its operation and maintenance. It can become the ideal job training device, actually taking the worker through an operation or maintenance procedure step-by-step until the skills have been mastered."

Man has long dreamed of having access to all available knowledge. Information science and these remarkable information devices make that dream almost possible even despite the magnitude of today's information explosion. Given enough databases and access to them, it is conceivable that a single individual can be informed on virtually any subject known to man.

By bringing together the first two technologies that we have talked about -- computers and telecommunications -- it is possible to form information networks that allow us to tap into diverse databases. The potential impact on our society is so profound that many say we are entering an important new "Information Age." This is important to the world of work in two ways: information as a more sophisticated tool as our work force is increasingly employed in handling information; and creation of jobs in the emerging information networks.

Over half of the work force is engaged in information handling rather than manufacturing or agriculture, as has been the case in the past. Even traditional industrial and agricultural jobs at virtually every level are being affected by these information systems. For example, offices in the near future will be designed around their information networks.

These automated office information systems will employ fewer individuals at any one location. Yet through the linkage of telecommunications, there may be many more offices at diverse locations.

The speed at which decisions and transactions are made will be shortened dramatically. Real-time data will allow managers to make better informed decisions.

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The effect of integrated information systems on jobs is already apparent. Take for example law research.

Researching applicable laws and past decisions with regard to a specific legal matter has long been a primary function in law organizations. Countless numbers of young lawyers and law clerks searched through books and documents for pertinent information.

Today virtually all of the law is stored in computer data bases. It has completely changed the way in which law offices work. Now it takes only minutes to punch in key reference words to search the law.

Within seconds the data is accessed, reviewed and, if needed, printed out ready for use. Obviously, this is a much easier and more comprehensive way to research the law.

Inasmuch as a single researcher can now handle many times that of a traditional workload, one might think this would eliminate jobs. But quite the opposite seems to be happening. Paralegal work is an expanding growth field.

Even small companies and individuals can benefit from the availability of information systems. A variety of inexpensive but huge data bases are available simply by connecting computers to telephone lines linked to data sources.

Moreover, information and its resulting knowledge is being considered America's greatest economic resource for the immediate future. Without a doubt, people who can deal with information and ideas to produce knowledge have a bright prospect for employment.

Yet the high technology of the future requires more than people who can think. Machines, too, are learning to think.

Say "robot" and most people think of R2D2 or C3PO. Unfortunately it's an image that won't go away. The fact is, robots are simply machine tools that can be programmed to perform some useful act of material handling or movement under computer control.

"Robots are an American development," says Walter Weisel, president of Prab Robots. "But only now are they beginning to be more widely applied in helping to improve our productivity. Robots today have three main components: an arm that can move

in several directions, a manipulator or 'hand' that holds the tool or part, and a controller that gives instructions. Most robots are not humanoids at all, merely machines with appendages to perform certain functions.

"What makes the whole system work is the inclusion of integrated circuit chips that control the movement of the machine."

"Today's robots are, of course, stupid by human terms. Yet they can be made to accomplish a great many of the jobs that previously could only be done by humans. That's important because it will affect the work force of the future."

"Furthermore, robots are becoming increasingly sophisticated and can be made with even today's technology to do a kind of thinking, such as, making simple decisions in manufacturing processes or inspecting the work being done."

"Robots are ideally suited to many jobs that are fatiguing, tedious, or dangerous. Materials handling is one of these."

"Here's an example of a job that robots do well. Spray painting is a repetitious, dirty, and sometimes unhealthy job. Robots don't care, and they're very good at it, too. They don't ask for coffee breaks and they don't mind long hours, although they do need time off occasionally for repairs. Of course, robots have no health problems of the human variety. They can readily take on jobs that could be dangerous to human workers."

Speaking of health, the impact of high technology on medical procedures will change many health care jobs and create others.

Popular support for emergency treatment and a growing and aging population are creating thousands of new health care jobs. Probably the most important change is in the medical emergency team's abilities to take treatment to patients who might not otherwise survive.

Much of their new equipment is the direct result of the application of high technology, beginning with telecommunications, keeping the team advised of the situation on the way to an emergency and allowing remote diagnosis and treatment. Microprocessors and electronic equipment are providing marvelous new diagnostic and treatment instruments.

In addition to the more traditional health care jobs, there are whole new fields in bionics, engineering, and in building and maintaining these new health care tools.

Not all of high technology has to do with microprocessors and electronics. Genetic engineering is creating improved and less expensive pharmaceuticals. Moreover, greater capacities for engineering biological substances will lead to new materials and processes for industry and agriculture.

It isn't too far-fetched to speculate that genetic engineering may hold the key to vast new sources of energy fuels and lead to a wide range of new job opportunities. Some of these engineered biological materials are even thought to offer improved means of cleaning up our environment.

Of course, there are many other emerging technologies creating new or changed jobs. Technology is expanding at a rate greater than at any time in history. It portends dramatic changes in all we do and especially in the way we work.

Changes in technology have always affected jobs. What is different now is the speed at which the changes occur. As workers, we need to be aware of changes.

We should understand that none of these technological developments is taking place in a vacuum. A breakthrough in one area may be applied in another.

The technology development of the 1960s and 1970s in space led to many of today's technologies, including the microprocessor, unique materials, improved reliability, and smaller systems.

Harvard University's Robert Reich explains: "Regardless of where you start looking at technologies, you quickly realize that many of them are related to each other. Computers and integrated circuits are common tools in most technologies. But more significant than that obvious connection is the ripple effect of developments in one technology affecting several others. Fiber optics and lasers, which started as communications development, are now both being widely used in medicine."

"Modern technology is rapidly becoming like a fishnet. Pull on one strand and several others move. The meaning is clear.

A major change in one technology can very quickly cause major changes in other technologies. Or to put it differently, when technology changes the jobs in one field, it will very likely change the jobs and the way work is done in many other fields."

"This phenomenon is relatively new. But as science learns more about the nature of the physical world, it becomes clear that the interrelatedness of technologies is going to increase, not diminish. And for work and jobs, that spells change -- frequent change."

By now you should understand that new "high" technologies have the potential for changing your job. On the other hand, you can use changing technology to help find out where the jobs are going and to position yourself by preparing for a better job.

Whether or not technology will continue to create more jobs than it eliminates is the key question. In the case of agriculture, it did not. A strong, but different, agricultural economy survived.

The evolution of writing instruments through the advance of technology exemplifies the evolutionary process of technological development, and with it, the change in jobs. Clerks became more productive with typewriters. Electric typewriters were more efficient and quieter than manuals. Then the word processor evolved, combining computers with typing technology to facilitate changes. Today this combination of technologies has completely revolutionized how offices are organized and how they work.

In a sense, the word processor is the communications hub of an office. To many it is a painless introduction to computers. Job opportunities for word processor operators are expected to grow by at least 100,000 new jobs each year. By 1990, some say 5 million workers will be using word processors.

Technology has had a major impact on jobs in telecommunications. The communication field is developing because of new technologies and because of greatly expanded use of information networks. By any criteria, telecommunications is a growth field.

The popular example used by advocates of high technology in telecommunications

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is that if communications had not been automated, all of the workers in the world would be an insufficient force to provide today's level of service. In any event, technology has drastically changed jobs in communications.

For example, work of telephone linemen evolved fairly slowly until the last decade when installation was accomplished and fiber optics were applied to a lot of the old systems. Installing fiber optics requires different skills than installing wire because of the need for precision adjustment and added installment responsibilities.

Sometimes technology changes the places where people work. Telephone equipment repairers, for example, work less frequently in the field and more often in equipment repair stations.

The cable TV industry developed rapidly and generated tens of thousands of new jobs. Prospects look good because the work keeps on increasing as people add cable to their homes.

Even the exotic technologies produce jobs. You don't have to become an astronaut to work in the space field. The advent of communications satellites began a technology that opened jobs as communications satellite technicians.

"I started out in electronics," recalls a technician in a clean suit. "I never dreamed that one day I would be installing and repairing components on satellites. I got the job with basic skills that could be applied in a new field of technology. Then I had to continue to learn new things as the technology developed. It isn't an ordinary job. It's demanding and it requires precision work under clean room conditions. It isn't easy to do, but I like the challenge."

Glenn Watts, president of the Communication Workers of America, sums up the situation in his field.

"Although our industry is still prospering, we can see the handwriting on the wall. We're caught up in one of the fastest riptides of technological change. We're trying to educate union members so as to avoid some of the difficulties encountered by other technicians affected by technological change."

"We are determined to work with management to avoid other mistakes. This

is the new responsibility of unions: to help workers adjust to those massive disruptions when they occur."

"We've organized a study under leadership of a Committee on the Future, which envisions a highly mobile work force in our industry, in which members are constantly retrained in the technology required and allowed to take benefits with them when they change jobs. The Committee suggests that our union cautiously explore possible new approaches to avoid conflict with employers. We seek to have employees more involved in the approach to pending changes."

"What we're doing is accepting and adjusting to change rather than trying to stop it. Our workers have lived with technological upheavals for years. We hope to use our experience to serve the needs for both productivity and job fulfillment."

When unemployment is high, it's very easy to get the impression that overall there are going to be fewer jobs by 1990 than there are now. "Not so," say many experts.

Here is what Dr. Marvin J. Cetron, President of Forecasting International says about future jobs:

"The following occupations are expected to become increasingly important. The first is energy technician. Demand may exceed the supply of labor in nuclear power plants; coal shale and tar extraction, processing and distribution; solar systems manufacturing, installation and maintenance; synfuels production; biomass facilities operations; and possibly geothermal and ocean thermal energy conversion operations."

"The world population will double in the next 35 years, intensifying housing demand. Modular housing, using radically new construction techniques and materials, will provide jobs for technicians, inspectors and supervisors in housing rehabilitation."

"Hazardous waste management will add tens of thousands of jobs in collection, transportation and disposal."

"The robot industry will become the third largest industry in the United States, facilitating extensive use of industrial robots. Although some workers will be displaced by robots, as many as 800,000 robot technicians will be needed to ensure

fail-proof production with robots."

"Materials utilization technicians must be trained to work with amorphous and polymer materials and exotic manmade materials."

"College-trained genetic engineering technicians will work in laboratory-like settings to produce mass quantities of biological material."

"Highly trained holographic inspection specialists will be needed to help keep automated factories running."

"Automotive fuel cell technicians will work with exotic new batteries, which will be used increasingly."

"Bionic-medical technicians will be required in increasing numbers to manufacture, fit and maintain the bionic appendages and devices being applied."

"Despite reports of a glut of doctors, they and other professional and paramedical specialists will become part of emergency medical teams."

"As people live longer more geriatric social workers, along with hundreds of thousands of other health care workers, will be essential."

"Specialists in computer-assisted manufacturing processes will be required to program and reprogram industrial production facilities."

"Because of the continuing and increasing need to retrain workers, computer vocational training technicians will be employed in education and training development firms as this art becomes a new science."

Some forecasters have made a "science" of their art by using sophisticated computers to study long-term trends. Even so, we can't know all of the nuances of change.

Here is an historic example of what sometimes happens. The giant Corliss Engine was the star attraction at the Centennial Exposition in Philadelphia in 1876. It was the most advanced and certainly the largest steam engine of its day. Contemporary experts predicted that engines like these, and even larger, would soon provide the overwhelming muscle of industry, replacing smaller steam engines and water power as its moving force.

As it turns out, that prediction was wrong, even though much of the technology

involved in the Corliss Engine lives on more than a hundred years after it was built. This is not to say that technology had no effect; it just took a different turn than expected.

Since the Corliss Engine was built more than a hundred years ago, we have television, computers, radio communications, and effective medical care.

Today, robotics seems to be the wave of the future. But will this technology develop as many now think? And what will be the real impact on jobs? Opinions on these subjects are diverse.

Eli Lustgarten of Paine Webber:

"The impact of industrial robots will not be nearly as complete or rapid as some forecasters have said. If you look at what is happening, American industry is applying robots to relatively few areas, mainly to the welding and spray painting of automobiles. It isn't that robots can't do more jobs in the workplace, but in the foreseeable future use will be limited by the economics involved."

"The general myth is that robots are going to take over jobs immediately. They will only be used as a part of the industrial modernization process on an evolutionary basis. This will take time."

"The first use of robots has typically been in hazardous environments, or doing things the worker doesn't really want to do -- spray painting, spot welding, things like that. These are areas where robots offer higher quality at a lower cost. The work force has no real complaints about use in that environment and the number of people involved has not been that significant. It does not create a problem in employment."

"What will probably happen over the next ten years, as technological advances occur, is that you will see a greater use of robots in assembly. That is a labor-intensive area where we will see most of the dislocation of people."

"It is not going to happen overnight but the social problem is very real for the future. The problems are being addressed, but the solutions are not clear."

Joseph Engleberger, president of Unimation-Westinghouse: "We have come a long way in the development of industrial robots. Unfortunately, American users

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have been slower than some of our foreign competitors in applying the benefits of this new technology."

"Robots are becoming more and more sophisticated and will take their place increasingly on production lines. The present generation of robots is beginning to have sight and tactile sense. This will open up whole new areas of application."

In making a transition to a high technology economy, technical skills are not the only ones that must change. High technology affects managers as well.

The old techniques don't seem to work. Many business organizations are already discovering that high technology equipment and processors cannot be managed adequately as modern extensions of traditional industries.

The noted management analyst, Dr. Peter Drucker, has been studying these developments:

"Managers and supervisors, as well as workers, are going to need new skills. The work force that acquires knowledge, proficiency, information technology, and sophisticated technical skills cannot be motivated to function effectively by present-day traditional American management methods."

"Greater participation by workers in decisions affecting their jobs is a trend already well under way in some businesses, most notably in high technology companies. It is spreading, but slowly. Acquiring the skills to manage in a participatory manner will require widespread managerial training."

"The urgent need is for management systems that are patterned differently from a military command model. People at every level want respect for their ideas about work methods, equipment operation, and workplace environment. Workers want autonomous work teams, rotated leadership, and most of all, they want communication up as well as down."

William Winpisinger, president of the International Machinery and Aerospace Workers, cites the "Workers Technology Bill of Rights," drawn up by his union members, as an indication of workers' attitudes. "Among other things, the bill of rights says, 'new technology shall improve the conditions of work and expand opportunities for knowledge, skills, and

compensation to workers. Displaced workers shall be entitled to training and retraining.' The Bill just as vigorously expresses a right to participate in 'deliberations and decisions that lead to the introduction to technology.'"

"We cannot grow and meet free-world competition for ideas and products without recognizing the human needs and expectations within the ranks of our workers. Companies that do may survive, but they will not thrive."

"And yet it should be apparent that technology is affecting something much deeper than skills. It is forcing a change in attitudes about work, the people who perform it, and the people who manage it."

"A general change in management/worker attitudes and relationships, together with an increase in productivity, has already been accomplished in countries such as Germany, Sweden and Japan. A few of those countries are reimporting the idea to the United States. We have the option of doing it here on a broader scale, but it will take time, training, and commitment."

A spokesman for Honda expands on the same theme:

"At our first American plant in Marysville, we are applying a new approach to management/worker relationships. We have abandoned titles in the usual sense and consider ourselves "associates" of each other, regardless of what roles we play in the enterprise. Admittedly, it is an experiment but it seems to be one with considerable promise."

Two points should be clear by now. First, the United States is facing a basic economic change from one based on physical resources to a human-resources based economy. This may make the worker more valuable, providing he/she develops that resource.

Second, the pace of change is often staggering. As individuals and as a society, we must become able to cope with rapid, sometimes disruptive and impersonal, change.

The question is, "How do we develop our work potential and deal with the changes that affect our lives?"

There seem to be three messages for us:

- accept the need for change and



- become willing to adapt;
- become a lifelong "learner" and change skills through training and retraining; and
- shape your future by making your own career decisions, setting goals and working to meet those goals.

"A national support structure for training and retraining is essential to our economic well being," claims Dr. Robert Reich, "and to improvement of our competitive position in the world. Support means the establishment of additional sources of training, of information and guidance, of encouragement and economic aid during training for individuals."

"The Hubert Humphrey Occupational Resources Center in Boston is an example of what can be done in a joint effort. But what we need now is a national effort. Not just a Federal program, but a joint effort among the business world, organized labor, and local government."

"The Humphrey Center is unusual in a number of ways. Not only is it a remarkably sophisticated and well equipped facility, it is a cooperative venture with important implications for the rest of the nation. Here employers, unions, and local officials have been working together to increase the skill levels and overcome the skills gap that exists in this area."

"We must develop other cooperative arrangements like this one, permitting a high technology transition to occur without catastrophic disruption of the economy, the competitive vigor of the country, and the lives of people trying to make change."

"On an even larger scale, the talents of the private sector, government, labor and corporations were combined at Lowell, Massachusetts to create an environment and attitude to seize opportunities offered by new technology. The people of Lowell grappled with the problems of the work force skilled in trades no longer required, a business community that had not invested in their city for decades, and a variety of parochial interests. But they had two valuable assets -- lots of space available for the asking and people who were willing to learn and who needed to work. "

There was something else -- commitment. This unusual alliance of the city's business, labor and political leaders

formed the Lowell Development Finance Corporation, and with it, turned things around completely for this community.

First, the Wang Corporation came in and made Lowell its corporate headquarters. Through vigorous promotion and individual effort during an eighteen month period, thirty industries came in to join Wang. The people here learned new skills, took on the challenge of new products and kept a resolve to make their effort succeed.

The results for both the community and individuals is a vigorous local economy that is providing jobs. Technology isn't "stealing" jobs, it is "giving" jobs to Lowell, Massachusetts.

What is technology doing to your job? Are you preparing to change as your world changes?

Predictions are that the generation of people now in high school could have three quite different careers during their work life. Do your children know this? Do their teachers? The preparations in terms of knowledge, skills and attitudes are not going to be made unless we have the resolve to follow through.

We are in a high technology age that guides our directions for work, for society, and for civilization. We have choices to use technology for our benefit.

Yet technology is, as it always has been, the source of jobs. High technology is no different. It is creating many new, well-paying jobs and changing the way many other jobs are performed.

Examine your own job, or look at the job you are pursuing. Are your skills going to be enough to keep you employed and growing in your chosen career? Think about what skills you need for a better career.

In response to our original question, "Is Technology Stealing Your Job?" The answer is, "Only if you let it."

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## Where Will You Work Tomorrow? 4

None of us can truly know what the future holds. But the future does have a framework, and the beginnings of a structure based on the past. This structure allows us to put the "jobs of the future" in a certain perspective.

Nine million workers were laid off during the recession of 1981 and 1982. One third of them -- three million people -- may have lost their careers forever.

"I used to think that working in the auto industry was job security," recalls Mike Farmer, an unemployed worker. "Now after 18 years, I can't get work in my field. I have to learn a new skill." By 1990, 15 to 20 million people will need new skills to start new careers. You could be one of them. Over 10 million new technology-related jobs are expected by 1990.

Unprecedented changes are occurring in many occupations. We are becoming an "information" society rather than an "industrial" society. The result is a jobs upheaval. There is an exodus of jobs from the North and Northeast to the South and Southwest as well as from cities to suburbs. The trend is expected to continue. No matter who you are, new technologies are reshaping the world in which you will work in the future. The effect is widespread that you must be alert to what's happening -- where, how, and why -- for your own security.

By 1990, manufacturing in the United States will provide only half of the jobs it did in 1980. Increasingly, we will be buying consumer goods made outside of this country.

Although agriculture will remain a strong industry, it will continue to require fewer farmers and ranchers. Farm jobs will shrink to less than four million by the end of the decade, a loss of half a million jobs in 10 years.

By 1990, the overall job market will grow by 21 million new jobs. Forty percent of all jobs will be filled by women. About three fourths of adult women will work.

Seventy-five percent of all of us -- including managers -- will work in the information and service industries. These include sales and marketing, telecommunications, finance, medical care, transportation, food and leisure, and insurance.

To put it another way, three out of four in the work force will be what many choose to call "knowledge" workers. In a sense all managers are "knowledge" workers and always have been. But how they work is changing dramatically.

What is different about a manager's job, is that a great deal of what used to be done person-to-person is now done on computers and automated office equipment. The most apparent effect is that they have become more productive, spend more time on data than on logistics, and can access data more rapidly. Not only that, but they manage more people than they did in their old job, yet do not have to spend as much time with each employee -- at least not in face-to-face meetings.

As a matter of fact, not all of our future workers will come to the office. Quite a few will work at home. By 1990, up to four million of us will work at home, on computer consoles connected to the headquarters office, which may be in another state. Not all, or even most, of the 21 million new jobs will be spawned by new technology. Half of those "new" jobs will be in low paying, semi-skilled occupations, not much different from those of today. The problem is that we can expect fierce competition for those minimum pay jobs.

Many specialists, studying the trends, believe that stratification will occur with well-paid knowledge workers in the upper strata and poorly paid laborers and service workers concentrated in the lower strata. This reduction of the blue-collar, well-paid middle class will result in a major change in our life styles.

This disparity will be further complicated by a decline in supervisory and management jobs that traditionally provided upward mobility. This is not to be equated with a shortage of opportunity overall. It does mean that opportunities will occur less frequently in traditional jobs and more frequently in some of the new technology areas.

The trick is, as it always has been, to match your skills and interests to available jobs.

The Bureau of Labor Statistics estimates a need for 700,000 new secretaries by 1990. That makes it an occupational field with more current job openings than for

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computer operators, a field that will call for less than half that many new workers.

A look at fast-growing "sunrise" occupations, those that are on the increase, may give you some ideas about where to find jobs between now and the end of the '80s.

In the category of services and low-tech jobs, generally requiring a high school diploma or less, there are restaurant workers with 800,000 job openings; nursing aides and orderlies with about half a million of the new jobs, and the same for janitors and sextons. Retail sales will require an additional 480,000 sales clerks and 450,000 cashiers.

That amounts to about 3,430,000 jobs out of the 21 million expected. Where are the rest of the new jobs? Although even the experts do not agree on just how many "technician" jobs will be created by new technologies, all agree that it is the new field for the '80s. Here are the estimates prepared by Marvin J. Cetron, Ph.D., president of Forecasting International, based on his analysis of the impact of technology on new jobs.

Industrial Robot Technician	800,000
Energy Technician	650,000
Industrial Laser Process Technician	600,000
Computer-Assisted Design & Manufacturing Technician	600,000
Housing Rehabilitation Technician	500,000
On-Line Engineering Medical Technician	400,000
	<u>3,550,000</u>

These technical jobs will generally require at least one to two years of college level training. One word of caution: although these tend to be considered as "glamour" jobs, they represent only a portion of the sunrise jobs.

Eight to ten million of the new jobs will not be in high tech fields at all. Even today, McDonald's employs more people than U.S. Steel.

Among the fastest growing occupations requiring a postsecondary education and training, but not a bachelor's degree, are paralegal personnel, computer service technicians, office machine and cash register servicers, and tax preparers.

Despite the present glut of college-trained people, prospects for jobs requiring a degree are improving. The fastest growing professional occupations are computer systems analyst, physical therapist, computer programmer, speech/hearing clinician, economist, dietician, and electrical engineer.

Perhaps it is just as important to consider "sunset" jobs, those that are declining. Some of the most apparent shrinking occupations are farm laborers, graduate assistants, farmers, shoemakers, secondary school teachers, college teachers, and typesetters.

Choosing a career, of course, is just the first step toward finding a job. A worker must also have a place to work. Where will you work tomorrow? There is an excellent chance it will be in a small business. About 75 percent of the new jobs will be generated by companies with fewer than 100 employees.

As our nation moves from manufacturing into an information society, the smaller, highly specialized companies are enjoying success. Some are already on their way to becoming large companies. These represent excellent opportunities for the future, especially in high tech areas. But even in the occupations outside of high technology, its results will affect jobs.

The negative effect of high technology on jobs has many concerned. In a real sense, what has happened to unemployed automobile workers is that technology, used effectively by foreign competitors, has produced higher quality products and eliminated some American automobile jobs.

Even so, union members have made it clear: they do not intend to stand in the way of technology. Indeed they welcome it, with qualifications, as long as their people and communities become co-beneficiaries rather than victims.

Who will get the jobs during the rest of this decade? People who are prepared by training and education, flexible in attitude, willing to relocate and willing to shift jobs or change careers, will have the best chance at the better jobs.

Dr. Cetron has focused on the impact of technology on new jobs. "The jobs of the future are changing in nature," he says. "We need to make short- and

long-term changes to avoid disastrous consequences. First, we should begin to encourage the unemployed to upgrade their skills while at the same time taking lower-paying jobs as a temporary solution. Next we need to get our education system back on track to produce educated minds that accept the challenge of the future and want to learn more."

"Strong emphasis on education is necessary; however, it is not sufficient. We also need training for the occupations of tomorrow. Finally, we must admit where we have gone wrong and face up to what it takes to keep America strong in the future."

The next 10 years will be a period of transition. Even the most optimistic forecasts call for a shortfall of jobs in the range of seven to eight million -- about twice the unemployment rate in the 1970s.

That fact may sound worse than it is. Dr. Cetron has pointed out that we may have to change our definition of full employment, because our rapidly changing technology will require up to half of the unemployed to be retraining at any one time. Jobs will be changing so rapidly that training for all workers will be an ongoing requirement.

Retraining involves far more than changing from one career to another. It also involves "professional updating," which may become the norm for most workers. Retraining is the unending -- but stimulating -- process of keeping up, not with the Joneses, but with technology. Most high tech employees, and many others, will find such learning essential during the next decade. The reason for such massive retraining and updating is that the life span of any marketable skill is getting shorter and shorter -- some now say five years or less. This means that at any one time, millions of people will need to be in the classroom.

In cases where instruction is not provided as part of the job, where will employees find the time for retraining? One way is in "job sharing," whereby two (or more) people take turns doing the work part-time. Job sharing allows time for training and personal demands as it spreads work around for more people. It's

also a partial answer to unemployment.

Job sharing is becoming more popular. Some employers say they like it because workers challenge each other and bring increased motivation as well as innovation.

The single most far-reaching employment trend is the surge of women into the labor market and the steady rise of women into corporate management, in the professions, and in a full range of technical jobs. Doors are now opening for women in many fields.

The days when women's work was relegated to the classroom, sick room, typewriter and sewing machine are ending. Today, many women choose to work at different occupations. It isn't just liberation that motivates this choice. Women work out of necessity and for fulfillment, the same as men.

Today 55 percent of all women work outside the home. This figure could reach 75 percent by 1990. Although this trend will continue to have a profound effect on family life and our social structure, the real significance to the economy may lie in the skills it adds to our work force at a time when innovative human resources are essential.

Experts say that America must have more engineers to meet the challenges of high technology. Our society currently graduates only 5 percent women among its engineers. The role of the engineer is to design and develop the technologies that allow us to produce goods and provide jobs. Some say we are not developing even one-quarter of the talent we need in science and engineering.

Yet technology itself is making the engineer more productive. From the days of Leonardo da Vinci, design and drafting skills -- converting a mental image to a physical idea -- have changed very little. But now it is changing. Computer-assisted design techniques are spreading rapidly. When coupled with other computers, programmed to control robots, the time between idea and actual production will be shortened considerably.

Acceleration is at the heart of what is happening with technology. From the time the typewriter had become widely used, it took 60 years for the word processor and desktop computer to alter the office and

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change business methods forever. Now it is expected that in less than 20 years even word processors will be replaced by micro-processing equipment that translates spoken words into print.

In an age of such rapid technological change, people will be required to change work skills at a pace unprecedented except in time of war. Collectively, it will be imperative to develop a new national work force, flexible enough to keep up with the ever-increasing demands of change. The only way we can do that is through education and training. Millions of people -- from 15 to 30 million by 1990 -- will need technical training or professional updating. Moreover, we will have to upgrade the teaching of job skills to the nation's youth.

All this means we are going to need to see large-scale expansion in training and education. Despite the current status of opportunities, work-related education and training will be a growth occupational field for both the short- and long-terms.

To put it mildly, our entire educational system -- public, private, vocational, and industrial -- will be strained to meet the demands of the next 10 years. A blue ribbon National Commission on Excellence in Education has already assessed the problem. Dr. Margaret Maraton, who served on the Commission, summarizes its findings:

"Some 23 million American adults are functionally illiterate by the simplest test of everyday reading, writing and comprehension. Nearly 40 percent of the 17-year-olds cannot draw inferences from written material. Two-thirds cannot solve a math problem requiring several steps. College entrance tests show a steady decline in such subjects as physics and English."

"The Commission strongly urged a major overhaul of our high school system -- specifically to lengthen the school day and school year; to increase the number and competence of math and science teachers; to adopt more rigorous, measurable standards of academic achievement; to adopt a curriculum that requires the student to comprehend and use what he/she reads... (including geometry, algebra and some statistics), to understand how our economic

and political systems work, and to be able to use machines in other studies."

"Again, to quote from the report, 'Our nation is at risk. Our once unchallenged preeminence in commerce, industry, science and technological innovations is being overtaken by competitors throughout the world.'"

"The people of the United States need to know that individuals in our society who do not possess the levels of skill, literacy, and training essential to this new era will be left out, not simply from material rewards, but also from a chance to participate in our national life."

"Literacy" is the key to the future. The hard truth is that to learn the technical skills needed for more than mere survival in the '90s, we must be able to read and understand instructions, to express ourselves, and to solve problems logically.

And we must understand that lifelong learning is rapidly becoming necessary -- a fact of life. Education means careers, at entry level and ever after.

Knowledge workers of the future will require an understanding of science, computers, and higher mathematics. Obviously, it will be necessary to introduce educational sophistication at an earlier level.

One way we could do it is to follow the lead of a unique, state-supported school in Durham, North Carolina. The North Carolina School of Science and Mathematics (NCSSM) is a public residential high school for grades 11 and 12. Founded in 1978 on the site of a former state hospital, NCSSM was developed to give opportunity to students gifted in science and math, much as had previously been done in the arts.

Students are chosen based on overall abilities, not just IQ or scholastic records. They spend two years in a highly advanced program and must put time into service to the community. They learn from each other and an impressive staff of teachers and visitors.

What are the results and benefits of having such a special school? It has tended to upgrade science and math interest in all schools over the state. NCSSM ranks first in the nation in the proportion of students who are National Merit Scholarship

finalists and second in total number of semifinals. The first graduating class gathered three quarters of a million dollars in scholarships.

Interestingly, 70 percent of the graduates elect to go to North Carolina colleges and universities. Inasmuch as North Carolina is expanding with new businesses, the prospect of jobs for NCSSM grads is excellent. Considering the economic impact from each of these homegrown whiz kids, state officials think this investment is yielding a big return.

Contrast this with the state of facilities in a typical city high school. Is it any wonder many students fail to develop enthusiasm because of antiquated equipment and outmoded teaching? Students haven't lost their natural enthusiasm for technology and we won't "fix" the problem with only new equipment and laboratories. The evidence is that we need a new generation of inspired teachers as well as technologists. A number of institutions have recognized this and are striving to develop gifted, quality teachers.

At the college level, a conscious effort to improve the quality of technical education is under way at the University of Minnesota's Institute of Technology. It is a concept worth noting. It begins with a commitment to such an approach by the Institute's administration.

Dean R.W. Staehle has referred to passing on the culture as a "sacred trust." It is implemented first by an elaborate search for faculty who are "passionately committed to maintaining high quality. Teaching in a faculty like ours isn't for everyone," Staehle says. "At every level we manage our affairs to promote the qualities of our faculty that provide the next generation of students with the even greater capacities to contribute to the evolution of our society..."

A question often asked is, "Does the presence of a good technical school or college ensure jobs?" The answer is "no", but the question may be wrong. Because of the proximity of Massachusetts' famed "Route 128 industries" to MIT, and "Silicon Valley" to Stanford, for a while it was speculated that high technology grew next to centers of learning. But while both centers were originally formed by graduates

or professors from those universities, there is little continuing intersection between the colleges and the industries. It isn't even that these industries need the local schools as a continuing source of talent. In our mobile society, recruitment is national.

The better question is, "How can a community provide means for its youth to embark on high tech careers?" One answer is to have better job training resources. As a practical matter, of course, industries do recruit locally.

In Massachusetts, a major source of technicians has long been the Sylvanus Technical Institute, simply because community colleges and public schools lack the equipment and staffs required for high technology electronic training. On the other hand, technicians for Silicon Valley tend to come from the well-equipped, high technology-oriented community colleges.

Community colleges and vocational training schools, long the ugly ducklings of American education, are maturing into very valuable assets. Many have thrived by developing hand-in-glove relationships with specific industries.

There is a problem. Schools that are tied closely to industry must change courses and equipment as rapidly as industry changes products and skill requirements. Buying new equipment and creating new curricula are expensive. Few vocational schools or community colleges can afford (or have been allowed) to meet such a demand.

Underscoring this point, a recent survey by the American Vocational Association showed that about two-thirds of the schools surveyed had no courses in any of the high tech skills: robotics, lasers, fiber optics, or computer-assisted design and manufacturing. One obvious answer is closer cooperation among industry and educational leaders. Realistically, that is sometimes difficult and raises questions as to the proper role for technical education. Should the community colleges and technical schools turn out technicians ready to fill in on the machines of industry, or should training be devoted to development of basic skills, leaving to industry the job of training for specific

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systems or procedures?

There are ways in which industry and technical educators can work together for their mutual benefit. At Butler County Community College in Western Pennsylvania, students are being trained in the field of "metrology," which is the science of precise measurement. More than 5,000 high tech companies, through the National Conference of Standards Laboratories, have both funded and helped plan the curriculum. When these students complete the three-year program, they are virtually assured jobs -- the demand is growing so rapidly.

Industry sometimes gets involved at the high school level. An example is the Tri-Lateral Council for Quality Education in Boston. Recognizing the need for technical literacy training, industrial representatives like Michael Odom from Digital Equipment Corporation are helping teachers construct curricula that get youths ready to develop high tech skills.

What's in it for industry? Assurance that entry level employees can speak, write, and compute at the 12th grade level so that they are ready to learn specific skills.

Some occupational specialists have said that vocational training schools may well have to be built in the parking lots of corporations so that students can get the "hands on" experience necessary. Already, the second largest source of technical training is on-the-job training by private businesses. The only hitch is -- you have to be an employee to get it.

Apprenticeship training, a traditional source of technical training for many crafts and skills, today has several problems. By and large, Federal and state apprenticeship programs -- with about 300,000 enrolled -- have been overtaken by new technologies. Controlled by outmoded laws and practices, apprenticeship training programs need revision. The unions themselves have been leading the campaign for change.

Dorothy Shields of the AFL-CIO has been assessing the need. "Apprentice training programs are good where management, unions and the government work together," states Shields. "In the construction trades the cooperative program has been working well for over a decade.

What made it work was industry and government funding, jointly administered. We think the same principles can be applied to high technology fields. Indeed, we are already doing that in the aerospace field."

Apprentice aerospace workers in Seattle are being introduced to lasers, which are becoming a mainstay of precision manufacturing operations. Lessons learned here will have a lasting effect on their job skills. In this instance, management provides the tools and specialists, unions provide the facility and staff, and government the funds to administer the program. Laser technology is also important in fiber optics. The inherent light weight of fibers and their high data rates make them ideal for aerospace applications. Laser light is what travels through the optical fibers.

The stress of high technology isn't only on the unemployed. Coping with the changes high technology imposes can also be stressful. Some think that even our "individuality" may be at risk in a computerized, information society. One may well ask what happens to the dignity of work in a high technology environment? What will technology do to us?

There is an answer to coping with technological change. People have been doing it since the dawn of civilization. When a new technology is mysterious or is thrust on employees suddenly, they feel threatened. But it isn't "change" that people resist, it's the method of change. You simply have to do it by preparing people for effecting change.

The Japanese instituted the "quality circle" meeting. You've probably seen them on the news or read about them. It's a way to improve productivity and quality by listening to workers' ideas. Clever Japanese management, right?

Wrong! The quality circle -- or participative management -- was developed more than 20 years ago here in the United States. The idea was largely ignored by other American companies, but versions of it began to be used in Europe and Japan. Applying this quality circle idea, generally, has helped Japanese industry increase productivity by an average of 8 percent a year. Our own rate has been about 2 percent per year in the same period.



For years, Science Management Inc. has advised its clients, including a majority of the Fortune 500 corporations, to bring line workers into the advisory process. Going beyond the "quality circle" idea, SMI urges having employees from one department look at the operations of other departments. This brings about a cross fertilization of ideas that in the end benefits the whole company. In a high technology age, an informed management requires a genuine belief in the value of the individual and a commitment to share responsibility -- not a giving up of management authority but a willingness to listen.

"On any given day, in any city, if you could see into those buildings, you would see jobs becoming available," states Robert Wegmann, Ph.D., of the University of Houston. "You would see people quitting, being fired, retiring, being promoted, moving on and reorganizing their firms -- all the things that you know go on within a business." A recent study indicated that 30 percent of the people at work today have been in their present job less than one year. That means that upward of 30 million jobs open up every year across the country.

"Then what's the problem?" Dr. Wegmann asks rhetorically. "The problem is that there is no way for you or anyone else to find out about all of those openings. Hundreds and thousands of employers make those decisions independently, and they are neither required, nor inclined, to report the openings to any central agency."

"Sure, the future is a gamble. Finding a good job is chancy. There are no guarantees, but you can improve your odds. You can make choices that can tilt the future in your favor."

"Today's job market -- and, even more, tomorrow's job market -- requires two skills for surviving: a job skill, technical or otherwise, and a job-finding skill. The first is obvious. That's what you go to school for, get special training for. The second is tougher. Millions of people enter the job market every year but only a handful of them are skilled in finding a job. For most of us, job hunting is hell. It tears at us physically and mentally. It kicks us square in the seat of our confidence."

A job search is an information search. But you don't even have the opportunity to compete for a job until you know one is available. What is surprising is that most people look in the wrong places! Unfortunately, there are few central places in America with anything like a comprehensive listing of jobs. The best ones simply don't get listed.

Of course, there are the want ads. Yet studies show that only a small portion of available jobs are advertised. Also, studies show that the majority of employers don't hire through the ads. Usually, it is better to use want ads only as one source of opportunity.

It is possible to enlist professional job searching organizations but they are often expensive. Critics point out that you may be able to do the same thing for yourself, with a little training. Undoubtedly, it is better to develop job searching skills for yourself.

At the East Bay Center in Oakland, California, job club members go to "work" looking for work. In the process, they learn job-hunting skills. Eighty-five percent of the people who come to the job club find a job they want in an average of five weeks, 95 percent in less than two months. A job club has the avowed purpose of losing members by helping them find jobs. The value of job clubs is that people band together for support and ideas, plus instruction in the skills required to get an appropriate job.

The telephone is the most valuable tool in conducting an initial search for a job. The skill needed is called the "two-minute drill." In just two minutes, you should be able to talk to a stranger, introduce yourself and outline your interests, build rapport with your contact and collect the information you need for your job search.

Of course, you don't have to be out of work to find a job. Deliberate job moves, initiated while a person is still employed, are difficult for anyone. There's always the doubt and fear about giving up a known job for one that's unknown. Most people live by the mountain climber's rule, "Never let go of what you've got until you have something else to hang on to." But today, with technology changing so rapidly, a

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deliberate move to a new field, a new location, and a new job may be the best way to ensure your future.

At the University of Houston, students take part in a program that concentrates on mid-career change. Some are unemployed, others have decided that for the sake of their future, they'd better start a different career. They learn how to conduct a job hunt -- something they didn't learn when they went to high school or college. Unfortunately, the myth is that when you get a diploma you automatically know how to find a job.

Courses in job searching are spreading. Local colleges -- especially community colleges -- are beginning to offer them to their students and to the general public. Anyone facing a job change should look first at what it takes to search for a job.

Today's jobs are moving and people are moving to find jobs. Understandably, the hardest hit areas are the traditional smokestack factory towns which are losing their economic base.

However, migration isn't a new phenomenon in America. The industrial revolution moved people from the farms into the cities. The requirements of wartime and military service displaced tens of millions of our people. Now we face a new displacement as we turn from the industrial to the information age.

Some of the results seem favorable, such as the move of jobs to the suburbs. But this may further erode our once proud cities.

We simply have to learn to cope with continuing change. And we have the opportunity in the rebuilding of an industrial America to avoid many of the mistakes of the past. The technology that has now opened the Sunbelt for development and created new productivity can also be used for the benefit of everyone.

Sometimes, technology seems like a monster, but we can also use technology to help us solve most of the problems we face. High technology offers some of the best opportunities we have ever had to understand technology itself. The videodisc, for example, tied to a computer may well be the ultimate teaching machine. It interacts one-on-one with the learner, goes at the pace best suited to him or her, and

delivers its lessons complete and intact, tailored to whatever information the learner needs to know.

Half the country will be wired for cable television in the next several years. Local access channels are required. These can be used by people in the community to generate interest in, and help deal with, local problems. They also serve as an electronic bulletin board and, especially, as a means for helping people find jobs. Right now we can use our newly found technologies to help organize and run local job clubs.

Succeeding in high technology is a matter of attitude, that is, a concern for quality and a willingness to adapt to change. The evidence is clear and strong. Technology is here and growing. How we respond to the demands of technology will determine the future of our nation. The competitive ability and economic strength of each of us, as well as the country, is in the balance. To tip it in our favor we need:

- workers who are trained in the new technologies;
- managers who respect workers and are willing to share responsibilities;
- a national commitment to improve the quality of our education and training; and
- a change of the old attitude that labor, management, and government are natural enemies.

Instead, we can forge a new and positive relationship among them.

We can meet all of these needs. Not by wishing or talking or government programs, but by assuming responsibility to act on the pieces of the problem that touch each of us.

As a worker, you have the responsibility to be realistic about your own job and your own background. You have to decide if your kind of work is changing. Are your skills really up-to-date? Are you willing to change careers? Do you know how to find a job?

As a manager, you are responsible for keeping informed on technologies that affect your company, your field of business



and your employees.

Do you know what new skills your business may need in, say, two years? Do you listen to your employees' ideas? Do you encourage subordinates to get more education and training?

As a student, you are responsible for preparing yourself for work. Have you made decisions about a career field? Which ones are expected to grow in the next five to ten years? Do you know what the education and skill requirements are in the field of your choice?

What about your own abilities? Are your math skills good? How about reading? Can you express yourself? Do you know how to find a job?

As a parent and as a citizen, you are responsible for the quality of education available to your own as well as other children. Does your school measure up to the needs of a high technology future?

You have the right to expect the best our schools and colleges can provide. Your vigilance and refusal to be satisfied with less than the best are the imperative first steps. If you think about it, the quality of our education and the quality of our lives begin with us, in what we think and what we do. If we make a commitment to continued learning in our own lives and those of our children, that is a positive step toward ensuring America's future.

Responsibility, commitment, and life-long learning. These are brave words, but hard -- very hard -- to actually live by. Yet, our future -- all our futures -- depend on just these things. You should not, must not, and cannot accept anything less.

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# The Hidden Job And How To Find It 5

Modern civilization has developed all sorts of ways to keep us dry, warm, fed, in reasonably good health, and even to peek into other worlds. But in the place of these more traditional nature-related problems, society has provided us with some new things to worry about. One of the most unsettling of these is having to look for new employment.

We should begin by pointing out that becoming unemployed, although devastating to the individual, is a normal thing that happens in our labor market. Becoming unemployed is not necessarily a reflection upon the individual. In fact, it usually has little to do with the individual's talents, abilities, desires, knowledge, skill level, or anything like that. It is just the nature of a free economy to run in cycles -- high ones and low ones, old industries phase out and new ones phase in. When that happens, individual casualties occur. We can expect to be among those casualties several times during our working lives.

Surprisingly, although the problem of being unemployed has been with us for centuries, modern society has yet to invent a sure-fire way to take care of the problem without pain or anguish. However, there is good news along this front. During the past several years, a new way of looking for work has been developed and packaged. The method existed prior to that time, but was available and known only to those in highly efficient private employment agencies.

There is a way for individuals to look for work that results in a minimum of personal wear and tear and which, because it is statistical, cannot fail.

This program outlines a statistical method of looking for work. In other words, it's a numbers game. Numbers games cannot fail if you continue to play them.

Let me give you an example. I could personally guarantee every one of you viewing this program that if you were to go to Atlantic City or Las Vegas and follow three short mechanical steps that you would definitely strike a jackpot on the one-armed bandit machines. The three steps are: (1) put the coin in the appropriate slot, (2) allow the coin to tinkle down until it stops, (3) pull the lever. Now

I absolutely guarantee that if you follow those three steps over and over again that the bell on top of the machine will eventually go off. Why will it go off? Because statistically it has to happen sometime. It might happen with the second coin. It might take 2,000 coins. We don't know the amount of money or time that will be involved, but we know that it has to happen.

For many decades, sales organizations have made billions upon billions of dollars using the numbers game. They will make a certain number of phone calls, a certain number of presentations, a certain number of demonstrations, and they know that out of a certain number of these efforts they will write exactly a certain number of sales. Against measurements like these, individual sales people can compare their production and know whether they're doing as well as can be expected or whether they need to improve their presentations.

The new way of looking for work runs along these lines. It transfers the numbers game from the sales world into the labor market. Individuals and groups look for work much more efficiently and without all the emotional wear and tear. They use a numbers game approach -- a methodical, mechanical way of looking for work. You can, too.

Here's an outline of the steps that one must take to look for work in this manner.

1. Get Over It and Gain Control.
2. Build Your Networks.
3. Just What Are You Selling Anyway?
4. What Do You Want?
5. Plot Your Marketing Campaign.
6. Package the Product.
7. Reach Out and Get an Interview.
8. Interviews Are Not Just Talk.
9. Job Survival, Or It's a Jungle Out There.

Now let's take a look at what I mean by each one of these steps.

## Step 1 - Get Over It and Gain Control

Most people, when they find themselves out of work, rush out immediately and start looking for a new job. It seems

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the logical thing to do. However, I think it is one of the very last in a series of things that a person out of work should do.

The first thing that I believe an individual should do is to deal with the emotions that accompany job loss. Loss of a job, regardless of how it happened, is an emotional blow to anyone. People react to emotional blows in a couple of different ways.

First, the individual can look at the job loss as some awful thing that is happening to them. We all know people who have lost work, who have crawled into booze bottles, who have sunk into depression, who have started using drugs, who have adopted a defeatist attitude, or who have become inactive, blaming the world for all of their troubles.

The opposite reaction is to view the job loss as yes, a surprise perhaps, but also as an opportunity to do those positive things with your life that may have been only vague dreams until now. The job loss becomes the start of a whole new life chapter. It's a positive event, even though it may be inconvenient.

It is possible to choose what your main reaction to the job loss is going to be, but you may have to work on it a little bit one way or the other. I would recommend first that you expect a flood of uncomfortable feelings, the so-called negative emotions. With many people, these emotions take the same form as the grief reaction that people have when someone close to them dies or is seriously injured. You'll experience a period of shock, then disbelief and denial, and then a sense of abandonment, anger, then depression, and finally a return to a feeling of normalcy.

These emotions are sometimes experienced one by one in very distinct phases. Sometimes they're bunched together. It's easy to get stuck at any one emotion in this series. It is thinking time well spent for an individual who has lost his or her job to identify where along this line of expected emotions they might be. Once you identify where you are, you are all the more free to choose where you want to be.

There are some other steps in the form of activities you might want to consider to help deal with the emotional blow of job

loss. Some of the things to consider are:

- Deny yourself the tendency to assign blame for the job loss. It doesn't matter whose fault it was, because that's in the past. You're in the present, and moving toward the future.
- Forget all about the job loss, the job, the boss -- all of that -- and go on a mini-vacation of three or four days to the beach, the mountains, an amusement park, whatever it is that delights you most.
- Talk to yourself and decide that you are going to enjoy the emotional storm. You are going to sink into the depths of depression, you're going to get really mad, but only until, say, next Wednesday at 3:12 in the afternoon. At that time, according to the contract you have with yourself, you will reject the luxury of being emotional and you'll get down to business. But in the meantime, no business -- just self-pity. Many people find this limited period of intense emotion to be very therapeutic and time well spent.
- Call a family meeting. Discuss the job loss as the family event that it is and decide as a group whether to treat it as a family calamity or as a minor inconvenience that represents a great opportunity. Decide on an initial plan of action. Everybody should have some assignment, even if it's no more than providing support to other family members. Plan future meetings at regular intervals.
- Find a support group. Call the local employment service, community centers, and ethnic or religious organizations. Many support groups for job seekers are called "job clubs." Do not, however, throw yourself in with chronically unemployed individuals who are not looking for work. Avoid them, at least for now. You don't need that kind of influence at this point.

Another suggestion is to seek some individual help and emotional counseling if you need it or if you feel you want it. Be quick to realize if such a need exists. Contact clergy or vocational counselors, not job placement interviewers at agencies who call themselves counselors. I'm talking about professionally trained vocational counselors. Most are associated with community centers, fraternal and ethnic organizations, and social service organizations. All of these can either provide the counseling or tell you where you can get it.

#### Step 2 - Build Your Network

Everybody who's looking for work has the choice of going it alone or trying to get some people recruited to help with the job search. Many times we elect to go it alone because of false pride. I know of a man who, after losing his job because of business cutbacks, was so embarrassed about it that he didn't even tell his family. He kept leaving as if he were going to work every day at the same time and coming back at the same time. For several weeks he didn't even tell his wife that he was unemployed.

Maybe this sounds like you or someone you know. Of course, it's your business. You can do that if you want because you are in charge of you. But you should remind yourself that it's normal in the labor market to be out of work periodically. It doesn't necessarily reflect upon you. It may not be normal for you, but it's normal in the economy. There are unemployed people all around every day who are quite surprised to be that way.

Consider the fact that other family members or relatives living in the area have a stake in your continued employment or unemployment. They have to live with you, your attitudes, your feelings about yourself, and the way you're spending your time and supporting your family. They also must plan or not plan recreational events, depending upon how much extra family income there is.

Everybody's got a stake in helping out when you find yourself out of work. Therefore, I recommend establishing a personal support network starting with the family,

using the technique just discussed. Call a family meeting. It's a great binding experience for families.

Friends should be considered as additions to your personal support network. They can even be included in your family project meetings if they're close enough. Involving friends in your job hunt in some way extends your range and keeps tabs on the labor market, all better than you could ever do by yourself.

When using friends for your employment network, don't tell them that you're looking for just anything. "Anything" to an employer means that you can do nothing, that you're absolutely desperate, that you'll probably take off as soon as you get your first paycheck. You are not looking for just anything. Before you ask people to help you keep an eye on what's going on in the labor market, decide what it is that you're going to call yourself. We'll cover that in later points. Make sure they understand how good you are at what you do and what specific jobs, by title, you are looking for.

It would be a good idea, though, to avoid unemployed friends who like being that way. They're not going to be very helpful to you in their attitudes and suggestions if you really want to go to work.

People who are working can be included in your network. Former employers of yours -- inform them that you're looking for work and ask them for any suggestions or help that they might give. You just might be offered reemployment. It happens all the time.

Professional or trade organizations exist in many occupational fields. Find out if your industrial field or occupation has a trade organization. If so, take a look at a couple of their magazines and find out if the organization might have a job placement component in it. Unions can sometimes be a contact network help even if you're not a member. It all depends upon local conditions.

Once you establish your personal network and your contact networks, you're going to have a lot of people looking out for you. This network requires a certain amount of maintenance. You're going to have to spend a certain amount of time on

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it away from direct job hunting every week.

Make sure that all of the network contacts know what kind of work you're looking for, how good you are at it, and how things are going. Contact network members once a week, or every other week or so, to give them a report and keep them involved. Tell them how much you appreciate them still keeping their eyes open for you, even if they haven't gotten you any information as yet. Keep a list of these contacts so that you won't forget anyone. Any information you get from these people should be received with your heartiest special thanks. By the way, once you do become employed and receive your first paycheck, consider having a thank-you party for all these people.

## Step 3 - Just What Are You Selling Anyway?

Suppose you were to get a new job selling refrigerators. If you're like me, you don't know anything about refrigerators. How do you think you would act during your first day on the job? Would you show up for work, hang up your coat, rush immediately to the first customer who comes in the door, and proceed to give that customer a sales pitch? No. You'd probably want to research the product a little bit first.

Everyone knows something about refrigerators, but few know enough about them to answer questions from shoppers. I would want to talk first to the boss and some of the other salespeople. I'd like to read a manual or two. I'd like to look over the refrigerators and I'd memorize some answers to questions the customers would probably ask. Then I'd be ready. I'd still be nervous, but I'd be ready to approach the first customer. I'd probably not handle that customer as well as one who comes in later in the day. It takes evaluation, preparation and practice to sell any product effectively.

That's my point. As a job seeker, you are selling yourself as the product. You know quite a bit about yourself, but do you know your strengths and weaknesses as a worker in your field? Have you done any research to find out what the market wants and what you're likely to be asked? Prac-

tice a sales pitch. Prepare answers to questions that you are almost certain to be asked. All of this relates directly to putting together and conducting a sales campaign on your product, and your product is you.

So, let's talk for a minute about identifying your personal strengths or features so that you can use this information to help sell your product, which again is you. It would be helpful to take inventory of personality traits, other people in your life who are supportive to you, your reputation with employers in the past, your education.

In other words, make a whole list of things that you think are plus factors for the specific job you've listed. Your list might have these things on it: you are punctual, you have good experience, you have a reliable car, you like working, you're honest, you have the support of a husband, the kids are no problem, you're good with figures, you can work without supervision and you're good looking.

Next comes the part, though, that some people find difficult; some people find it easy. A second self analysis would result in a list of the things that have a tendency to stand in your way as you look for a specific kind of work. In other words, list negative factors about yourself. Some examples might be: like to sleep in, don't like orders, no bachelor's degree, arrest record, basically lazy, fired from last job, must rely on public transit, not very good yet at work, no child care, girlfriend doesn't want me to work.

Why do I think it's a good idea to list what you think your negative points are? Because the simple act of listing these things will tend to bring them to your mind and therefore reduce their effect when you're looking for work.

A wise salesperson always knows his product's weaknesses and then handles them in one of two ways. The first way is to avoid the subject in the interview or in the sales pitch. Why go out of your way to point out a product's defects? The second way is, for those weaknesses that can't be avoided, prepare an answer to the customer's objections before even meeting the customer. This is known as the "yes, but" technique. For example, "This refrig-

erator is too small."

"Yes, it is a small refrigerator, but it is very efficient. Think of all the extra room it would give you to work in your kitchen."

You can't argue that the thing isn't small, because it is small. But you have prepared a "yes, but" to that objection.

"This is a very expensive refrigerator" might be another objection. A "yes, but" response might be "Yes, it may seem that way, but this is an exceptionally well-made refrigerator. It should give you many years of service before requiring any sort of maintenance." You get the picture? Facts about your past may tend to work against you while you're looking for work -- for example, if you have a prison record or if you haven't worked as a receptionist but you're looking for a receptionist job -- your "yes, but's" might sound something like "Yes, I've been in prison for the last eight years but while I was there I supervised five other upholsterers and trained several dozen of them," or for the receptionist, "Yes, it's true I haven't worked with the title of receptionist, but I've performed all of the receptionist's duties on other jobs."

Take a look at what you think your negative qualities are. Most of them will never come out in an interview. But if you feel it's an obvious negative quality, prepare a "yes, but" to it and relieve yourself of that anxiety.

There are several self-help books on the market. Many of them deal with self-analysis, identification of strengths and weaknesses, and self-improvement projects. Any one of them can suggest simple activities for identifying and assessing personal traits and work skills so that you have a clearer picture of what you can sell when you go into the interview. Everybody's got things to sell. Everyone has certain strengths and talents. It just takes a little time to identify them.

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This step has to do with selecting a specific job goal. Before you start to sell any item, you have to know what that item is. You can't say to a customer, "Would you like to buy some stuff?" without

having a specific item in mind. It follows, then, that if you are preparing to sell yourself as a valuable employee, you have to decide what yourself happens to be. In other words, what job title are you going to pin on yourself?

The job title should make sense in light of your work history, what you want to do, what the local labor market has to offer, and the time of the year. Again remember, never to use the word "anything." You're not looking for anything. Anything immediately telegraphs some damaging impressions about you to every employer who hears it.

You might say you don't want to select a specific type of work because you want to keep your options open. This is certainly understandable; it's even recommended. There's a way to do it -- to look for something specific and still keep your options open. On an application form or in a discussion with an employer, when you are asked what type of work you're applying for, give both sets of information in response.

Here are a couple of examples. "I'm applying for the receptionist job, but I'd also be interested in discussing any other clerical openings you may have right now." Do you see what that does? It tells them specifically what kind of work you're looking for, but it also keeps your options open. Here's another one. "Do you have an opening today for a forklift operator or any other type of warehouse work?" And one more: "I would be interested in work as a computer operator trainee. But if that's not open right now, I'd like to be considered for any other work that I could do in the data processing department." This is an absolutely vital step. You should not proceed with your job search until you have spent some time on this.

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"planning a marketing strategy." A job seeker has got to decide which potential employers they're going to spend time calling or visiting. This is called "planning a marketing strategy for a job search."

The Yellow Pages of the telephone directory can serve as an excellent resource for planning this kind of a marketing strategy. Once you have decided what your job title is going to be, sit down some evening with a big long piece of scratch paper and go through the Yellow Pages from A to Z looking at the headings. Don't look at the actual employer listings, look at the headings.

Write down every employer heading that might include the kind of work you are seeking. When you are finished going through even a small Yellow Pages section, as most small towns would have, you would be amazed at the number of headings you have written down on your piece of paper.

The next step is to rearrange these headings so that the employer group that interests you the most is at the top of the list. Your ranking of employer groups should go all the way down to the one that interests you least, but they should all appear on the list. Then when you begin looking for work, you will simply have to turn to the Yellow Pages heading that you have at the top of your list and proceed with looking for work with every one of the employers underneath that heading.

There are other directories you can use besides the Yellow Pages. If you are in an occupation or in a field of work that has professional organizations, there may be a membership list from which you can work. If you want to work in the social services field, most communities have a social services directory. If you're in construction or manufacturing, there are construction contractor and manufacturing associations with listings that you could use for this purpose. There are many similar employer lists, but the Yellow Pages is available to everyone. That's why I mention them here.

There are countless examples of workers using the Yellow Pages to come up with new ideas. A nursing assistant in a middle-sized city sat down and went through the Yellow Pages from A to Z and here are

the headings that she came up with: Nurses and Nurse Registries; Child Care Centers; Schools/Pre-Schooling, Kindergarten; Schools/Medical; Dental Assistants and Technicians; Home Health Services; Nursing Homes; Clinics; Health Maintenance Organizations; Health Services; and Mental Health Services. Perhaps she also wanted to write down Health Spas, Physicians and Surgeons, Social Service Organizations, Convalescent Homes, and Hospitals. Could you think of any more that might exist in your town?

She may not want to work in all of these classifications, but look at the choices available to her! Off the top of her head, she could not have come up with a list nearly that long.

Other marketing strategies that you might want to consider include registering with particular agencies or groups that offer job placement. If you do this, don't count on them to get you a job. You must get you a job. But there's nothing wrong with getting some help. Go to the public employment service. Check the want ads every Sunday. Also check the business section of the newspaper, bulletin boards at the supermarket, your clergyman, the mail carrier, your friends' network and relatives, specific community groups, ethnic organizations, women's centers, fraternal organizations, handicapped organizations, churches and religious organizations. Watch for "help wanted" signs in windows, and so on.

The list can grow to be very long if you write down all the places that you might want to market in looking for work. Some silly things might end up on the list. Things like newspaper obituaries, for example. It's true that the deceased person was employed by XYZ company, and that may or may not be a practical job lead for you to follow up. But it's worth your while to list it, along with other silly things -- just for the comic relief, if nothing else. It's evident to you that your brain is working and you're being creative.

After making a list of the places that are going to make up your marketing strategy, it's a good idea to rewrite the list in a clean format. Then keep track of contacts that you make at these different

places so you have a record of where you've been and when. Later you may decide that you want to go over certain territory or that you missed a certain job lead source.

#### Step 6 - Package the Product

This step consists of three distinct parts and they all have to do with what retailers call "merchandising the product." The first is grooming and dress, the second is writing resumes, and the third is the preparation of something called a personal profile.

Grooming and dress is something over which a person has nearly 100 percent control. I'm not in the business of criticizing anybody's hair style, makeup or clothing. People usually look the way they look for one of two reasons: the first reason being they can't help it and the second one being they've chosen to look that way. But it behooves the job seeker to take stock of him or herself. Take an objective look at the clothing you intend to wear for job interviews, at the way you intend to groom yourself.

It has been estimated in one study that as much as 45 percent of the success or failure of an interview is determined by how you are personally packaged, your grooming and your dress. Remember, you have only one chance to make a first impression. First impressions can be overcome, but it is very hard to do so. Whatever you decide to keep in terms of the way you have your hair done, the way you wear your makeup, and the clothing you wear, make those decisions purposefully. Perhaps you are running a risk, but take responsibility for that risk. An extreme hair style may be quite flattering to you, yet it may repel some employers. If you have decided to keep that hairstyle, do so knowing that it's going to turn off a large number of employers who think that you are making some sort of a political statement. From now on if people react negatively to you as a job seeker because of your hairstyle, it makes no sense for you to blame them. You knew that this was a risk, and you chose to run it.

I would recommend getting objective help from someone at an employment service, a private employment agency, or from

friends. Better yet, seek advice of people who work in the field in which you are looking for work. How to dress and groom oneself is one of those elements from which you can never eliminate all risk. No matter what you choose to wear, there's bound to be some employer out there somewhere who doesn't like it.

Your objective in looking for work is to reduce your risks as much as possible and to an extent that you can be comfortable with. In making decisions about packaging yourself in this regard, remember to identify potential risks and take the avenue of least risk that feels right to you.

Resume writing is another of those high-risk ventures. There is no formula for the perfect resume that nearly all employers would like. First of all, resumes should be prepared by those people in occupations where resumes are expected. This would include most managerial, administrative, technical and professional occupations.

There are two main approaches to resume writing. One is the chronological resume, which repeats the same information that one would find on an application form. The other is the functional resume, which de-emphasizes the places worked and dates, substituting instead the sorts of tasks and responsibilities that you have performed.

There are many, many self-completed resume writing books on the market. All of the ones that I've looked at are good.

Even as to the matter of length of a resume, there are conflicting schools of thought. I have heard employers say they won't bother interviewing a person whose resume is longer than one page. I've heard other employers say they wonder what's wrong with a candidate who has only a one-page resume.

It's a high-risk thing. There are employers who are going to like what you've got and employers who won't. If it's normal in your occupation to get by without a resume, then perhaps you don't even have to deal with them. Which brings us to a third way of packaging called a personal profile.

In addition to, or in lieu of writing a resume, many people have prepared profiles that employers seem to like very much. A

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personal profile is a one-page document on which a person lists personal qualities that they can offer to a new employer. Typically, a personal profile consists of three parts.

The first paragraph lists qualities. Examples: I am a self-starter; I learn new jobs very rapidly; I work without supervision; I'm considered to be very honest.

The second part of the document is a listing of proofs supporting the claims you've made in the first part. Following up on the first example, the second part might be: On my last job, my employer often left me in charge of things; there was never any problem with getting the work done; I received two awards for accuracy; the other employees voted me the person they would most like to work for.

The third part of the personal profile is a section of personal data that you would like to volunteer, some of which may or may not be appropriate for the employer to ask, that would help explain the sort of person you are. Examples: I am 35 years old, in excellent health, a single parent and I love to travel on weekends.

Whether you prepare a resume or a personal profile, just remember that either one is an advertising flier. It should not reveal all there is to know about you. It should simply raise interest so that the employer will want to interview you and take an application from you. It should be typed up on the very best typewriter available and duplicated on bond paper in white or some soft pastel, using the very best duplicating equipment that you can find. Again, a resume is an advertising flier. Advertising that looks cheap makes the product look cheap. It is best to have no resume at all if the alternative is one that's shabby-looking.

## Step 7 - Reach Out and Get an Interview

People who are out of work usually use two or three methods to look for work. The most popular ones are registering at agencies, reading want ads and dropping in on companies unannounced, hoping to be able to fill out applications. Does this sound familiar to you? The majority of job seekers limit their job hunt to these three

or very similar methods, even though these methods by themselves are very inefficient. Open your mind, consider the multitude of ways that you can look for work, and write them down to ensure you do not limit yourself to the two or three things that come to mind immediately.

Most employers prefer to fill their job openings from within the company. When they have an opening, they promote someone and then hire a new trainee from their application files. Or, they ask around to see if their employees know of a good candidate to fill the job. If you think about it, you probably know lots of people who got their present jobs because they knew someone in the company who had heard of a job opening. There have been studies estimating that four out of five jobs, that's 80 percent, are filled that way. The job opening is never listed outside of the company with an agency, newspaper or anywhere else. This is called the "hidden job market." It's the huge majority of jobs and it's called that because hardly anyone ever hears about them.

That leaves only one job out of five that is advertised or listed outside the company. You can see why, if you look for work in ways that expose you only to that 20 percent of the jobs, you are limiting artificially your chances of finding a good job fast. For almost all workers, the most efficient way to look for work is to do telephone canvassing on their own to find the four out of five open jobs that are never listed outside the company. Telephone canvassing enables the job seeker to contact the right official at a very large number of companies and in a very short amount of time. There's no other way of looking for work that is nearly as efficient as telephone canvassing. Letters and resumes cost a lot of time and money and are very rarely even read. Most studies that I've seen estimate that only 2 percent to 3 percent of mailed resumes even get an answer.

By far the most efficient method you can use in seeking employment is personal telephone canvassing. This means that with the Yellow Pages as a guide, you will telephone employers you have never met to find out one piece of information. Do they or do they not have a job opening right now

for the kind of work that you want? Every phone call is successful if you get an answer to that question.

The purpose of the phone call is not to seek work because seeking work by telephone is not effective. The purpose of the phone call is to seek information, and information is easy to acquire by telephone. If the information is that a job is open, the next step is to try to set up an appointment. However, if there is no job opening, you will ask for more information as to where else you might call to find a job opening. It's really that simple and yet difficult to get used to all at the same time.

Before you get on the phone using the Yellow Pages or any other directory, it's important that you set up an office for job hunting. An entire room in your home, a corner of a room, or a part of the kitchen that can be diverted for this purpose will do. Wherever your telephone is, it needs to be set up like a work station. You should ban food and drink; cigarettes too, if you can stand it. You need a scratch pad, pencils, the Yellow Pages, your profile or resume, and the list of answers you prepared for tough questions.

The work station should be clean, orderly, business-like. This little cubby hole or corner of a room is what you'll be using as your work station, so think of yourself as being at work. Keep regular hours. You have a job; your job is to get a job and that's hard work. The place in which you are to do your job must look like it's a work site.

It should also be understood elsewhere in your house that if you are at work you are not to be disturbed. The dog must be kept away, idle questions must be deferred until you are finished working, and similar work-type rules should apply, just as though you had a regular office in your home, like many professionals do.

Unless you set up your work station in this way and establish a regular work routine, it's probably not going to work very well. People will visit and interact with you just as if you were sitting around socially. That's going to interfere with your job search and prolong your unemployment needlessly. When you set up your work station and fashion an atmosphere around

it, you must make it clear to everyone that when you are at work, you are at work and not available for socializing.

As you may recall, the telephone method of contacting employers is a mechanical process, a numbers game. As such, it cannot fail if you do it right.

There are some basic steps for you to follow in looking for work by telephone. You do not call up employers and chit-chat socially, as we're accustomed to using the telephone. When the employer answers, it is usually a receptionist on the other end. Remember, you must ask for information and the information you want is the name of the person who hires your type of worker at that company.

Here is an example: "Ring, Ring, ABC Company." "Good Morning. Could you please tell me the name of the person who hires front office clerical help at your company?" Here's another one: "Hello, could you please tell me who hires forklift drivers for the warehouse?" In contacting a smaller company you might say, "Could you please tell me the name of the person who does the hiring for your company?"

In almost all cases, the person you are speaking to will give you that information because you are not asking for anything more than information at this point. This is Step Number One, to ask for that piece of information. When you have that piece of information, write it down.

Step Number Two is then to ask to speak to that person. Sometimes you will succeed in being put through to that person, sometimes not. If you are not successful, thank whoever you're talking to, hang up, put a box around that person's name on your piece of scratch paper, and call back in one hour. You almost always will get through at that time! When you get the person with hiring authority on the telephone line, remind yourself again that you are not looking for work on the phone. You are calling for information. What you want to find out from this person is whether or not there is a job open for the kind of work that you are seeking.

Here are some examples as to how this question might be asked. You need to ask it in your own words, of course. "Mrs. Jones, do you happen to have a need for an experienced accounting clerk right

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now?" Or, "Mr. Freeman, I'm an experienced forklift driver. Do you have an opening for a forklift driver right now?" Or, "Do you happen to have a need right now for an experienced clerk typist?"

You will know that you have a fish on your line when the employer attempts to interview you on the telephone, asking you interview-type questions such as, "Do you have experience doing this kind of work?" or "How long have you lived in this town?" Anytime that you are asked an interview-type question like that, the best way to handle it is to answer the question and ask for an appointment all in the same breath. Example: "I have lived in this town for five years. Could I come in this afternoon at 1:00 and see you or would sometime around 4:00 be better for you?"

You will notice in that response that I'm giving the employer two "yes" choices. The choices are to see me at 1:00 or to see me at 4:00. I am not giving the employer the choice of seeing me or not seeing me because I don't want to make that choice available to the employer. Most employers who are still interested in you will then ask a second interview-type question. The way you handle the second interview-type question is exactly the way you handled the first one. Answer the question and ask for an appointment all in the same breath. Another example would be: "Yes, I have worked in the retail field my last three jobs, as a matter of fact. By the way, which of those times would be most convenient for you to see me this afternoon?"

Of course, most phone calls from most people will result in not finding an open job for the kind of work you are seeking. The phone call is still successful. Consider all the time you've saved by using the telephone instead of going there in person.

When the employer tells you that there is no job opening for the kind of work you are seeking, this is your opportunity to ask the employer for information as to where you might call. Employers do speak to each other and they are usually aware of who is hiring and who is not in their field. If Ms. Jones does not have an opening for you, ask her something like this: "Oh, I'm sorry you don't have an opening right now, but do you happen to

know of anyone else who does need an experienced cashier?" If Ms. Jones gives you a referral, thank her profusely, hang up, call that referral and tell them that Ms. Jones suggested you call.

Use your own words, not mine or someone else's, in speaking to employers. But the words should convey the questions or information in the order that I've suggested. First of all, ask for the name of the person who does the hiring. Second, ask to speak to that person. Third, ask the person if there is an opening right now for the kind of work that you are seeking. If there is, ask for an appointment and give a choice of two times for the appointment. If there isn't, ask for a referral to someone else who might need your kind of worker.

This telephone script should be written out and followed faithfully in your own words. The first couple of times that you use it in talking to employers, you will feel clumsy. Everyone does, but it will sound perfectly natural to the employer on the other end. You may be amazed to find the employer seems to be reading from a script as well. The reason is that you're giving the employer relatively few choices as to what he can and cannot say in response.

If you make one call after another from the Yellow Pages, using the headings that you've selected previously, every few phone calls will net you an opening and an appointment. Other than at break times, the only time that you should allow yourself to get off the telephone is to go out on an interview. When the interview is over, come back and get right on the phone.

With some occupations, every few phone calls will uncover a job opening. With other occupations, openings will be harder to find. But there are always needles in the haystack. How many, we don't know, but you can find them and this is by far the most efficient way to do it.

## Step 8 - Interviews Are Not Just Talk

Let's talk about fears. The number one factor that makes people perform poorly in an interview of any kind is fear of the interview. Yes, it's called other things such as stage fright, nervousness, and



butterflies, but it all boils down to fear.

As we go through life all of us have to submit to interviews of one sort or another. They may be credit interviews, they may be employment interviews. Much of the success or failure of our life's goals depends upon how we conduct ourselves in those interviews. With this in mind, let's take a look at fear as it relates to the interview and just what it is that we have to be afraid of.

As a job applicant sitting in the outer office waiting to be called into the inner office to be interviewed for a job, we start exhibiting signs of nervousness and fear. We experience the specific type of fear manifestations that are unique to us as individuals. Some of us get headaches. Some of us have eyes that go out of focus. We get ringing in the ears, our hearts quicken, there's a tightening in the stomach, we get agitated or stutter, or we get forgetful. All of us have different things that happen to us.

We need to be able to identify that fear is coming on to us early and therefore we should take a minute to figure out what it is that we do when we are afraid. Since we are sitting in the outer office, we have to think about something while we're waiting to go in. One of the things that might be worthwhile to think about is that nothing bad can possibly happen to you in that job interview.

The interviewer is not going to hit you, relieve you of money, humiliate you, or threaten you in any way. The interviewer is probably someone that you will like very much because most interviewers are people-oriented. It's difficult not to like a people-oriented person. Perhaps you will want to tell yourself how much you are going to like this interviewer. Once you get into the interview, the only problem will be to decide why it is you like that person as much as you do.

Consider that the employer has a lot more riding on the job interview than does the applicant. The applicant doesn't even have a job at stake. Having walked in without a job, you can't lose what you didn't have.

The employer, on the other hand, must make a decision based upon a gut feeling that he or she gets about you in that inter-

view. That decision has to be based on impressions: how well you might get along with the other employees, how well you might learn the new job, and how well you might produce so that you pay for yourself in that job. According to several studies, the employer faces a \$20,000 minimum decision. A hiring mistake costs an employer that much, not only in wages, but in the cost of supervising you, damage, lost production, the cost of recruitment, the cost of processing you in, processing you out, and re-recruitment. If you keep in mind what it is that the employer stands to lose and then address those issues in the interview, you're hired. Sure to bring terror to mind in contemplating the interview is the question, "My God, what is that employer going to ask me in there?" It is wise to make a list of every conceivable question or objection you think an employer might ask in an interview. Once those questions are written down, you can spend leisure time writing answers to them, weighing carefully every word, trying the answers out loud, alone and with other people to see how they sound, and changing them until they become as perfect as you can make them.

Once you have a list of questions and answers written down, you can then rehearse them. You can ask yourself these questions in the middle of brushing your teeth. Have someone at the dinner table in the middle of a forkful of peas ask you one of the questions so that you can practice your response. The more you practice written answers to tough questions that you expect in the interview, the easier the interview is likely to become. In fact, many people report it becomes downright fun. You may doubt that, and I wouldn't blame you. But you will find that it's true if you put in a lot of preparation with tough questions.

Employers hire candidates that they like. They use that word too, if you think about it. I've heard employers say things like, "I had to interview seven people for that job today. I liked only three of them." Employers think that they're making a calculated formal determination of your qualifications for the job, but when it comes right down to it, you're being hired from the gut, not from the brain.

Since employers hire people that they

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like, your job in an interview is to make this person like you. One of the easiest ways to get anyone to like you is to show them that you like them in any way that is natural to you. Ask yourself this question: How is it that people in your social life know that you like them without you actually saying so? What is it that you do as part of your personality that demonstrates that you like someone? Do you smile a lot? Do you engage in heavy eye contact? Do you lean forward to them? Do you show an interest in what they're saying? Do you compliment them? What is it that you do that shows people that you like them?

Once you know what it is that you do as a natural part of your personality, it will be easier for you to turn on those things in the job interview in order to make the employer like you. If the employer likes you, you are hired. The employer will hire the person he or she liked the best. If this upsets you, that's just too bad. The fact remains that the person who is going to be hired is not necessarily the one who will be best for the job, but the one who knows the most about how to get hired.

Negotiating a salary is another one of those subjects, like a resume, that everyone seems to have a different opinion about. I'm not going to go into it in great detail, but here are some thoughts. First, any professional in the art of negotiating -- labor leaders, generals, politicians -- will tell you that it is best to avoid negotiating from a position of weakness. In a job interview the applicant is in a position of weakness because the employer is on his own turf and has what is wanted, the job. Therefore, it may be best either to postpone a decision during the interview process by asking for some time to think about it or agree to whatever offer the employer makes and then go home and think about it and decide whether to change your mind.

Second, many people have success with the negotiation process. Whenever the employer mentions a salary figure, the applicant does not respond to the offer except to look at the door, or the floor, or to nod the head, or repeat the figure. For example, "Well, I would like to hire

you, Dave. We're going to pay you \$7.00 per hour. What do you think about that?"

I would pause, I would look at the floor, I would nod and I'd say, "\$7.00 an hour." Then I wouldn't say anything. A very long pause just there often results in a higher offer being made. Consider using that technique.

Third, never, never, never, either on an application form or in an interview, mention a salary requirement figure before the employer does. If you do, you're either overpricing yourself or underpricing yourself when you compare it to the price the employer has in mind. There's always a way around it. If the employer asks you what your minimum salary requirement would be, ask what the salary range is that he had in mind. Then agree to that.

Fourth, many job search experts advise job seekers to accept any offer regardless of what it is paying, and then go home and put your feet on the stool, open a can of beer, watch TV, and think about it there. You can always turn it down later. If there's any question in your mind as to whether this might be the job for you, accept it at the time and then think about it later on.

Don't forget that every sales pitch must have a closing. A job interview is no exception. Seeking work is a sales campaign. It's not enough simply to show up for a job interview because that's not saying to the employer that you want the job.

Theoretically, a job interview is supposed to be two-way communication. In the course of every interview, whether or not you think you would want the job, make sure that you indicate in some way or another that you do want that job and you want to be considered for it. If it does not work into the conversation easily, almost every job interview ends up with the employer standing and saying something like, "Well, I guess I have no further questions, do you have anything further you would like to add?"

Does this sound familiar? Well, at this point you can throw in your sales closing, which you should practice and rehearse so that you never forget to put it in. You might want to say something like, "No, I guess I have no questions.



I'm really interested in this job. I hope you decide to hire me." Or, "It seems to me that we have a match here. I hope you agree." Or, "When will you be making your decision? I'll be very anxious to hear."

Anything like that will do as long as it is in your words, you have practiced it in advance, and it indicates that you have an interest in the job. Another suggestion is that every time that you have a job interview, you should immediately go home and write a note to that employer, thanking the employer for his or her time and indicating interest in the job. This should be brief and it should be handwritten, so that it will be more likely to be opened by the person to whom it is addressed. Have it on personal stationery, but nothing gimmicky. It should be mailed that same day.

These notes are rare. Employers like them. It's a courtesy, it's at no risk, and it's likely to arrive at the place of business one or two days after the interview is completed, during the time when the hiring decision is being made. It raises your name and face to the employer's mind again and can do nothing but help you.

#### Step 9 - Job Survival, Or It's a Jungle Out There

It is estimated in several studies that approximately 25 percent of all new jobs disintegrate within the first 30 days of starting work. The main reasons for the jobs ending early are problems related to communication, adjustment to the work schedule, and home life. If you anticipate some of these problems, you can diminish their effects and thus stand a better chance making it through the critical first 30 days.

It should be noted here that after the first 30 days these crisis situations are largely worked out, so if the job ends after that point, it's usually for some reason other than the initial adjustment problems mentioned here. In one straw poll of welfare recipients who went to work and then lost their jobs within 30 days, it was found that fully 55 percent of those leaving their jobs said that they left because of pressure from their spouse or parental figure.

It seems that when people are unemployed together for a long period of time,

they get used to having each other around. When one of them goes to work, a whole new schedule sets in, but only for half of the partnership. The adjustment can become severe for the partner who is not working, and pressures are often brought to bear upon the one who is working.

To help ensure against this sort of eventuality, it is best to involve the sweetheart, lover, spouse, or other significant person in the actual job hunt. In that way, the other person has nearly as much at stake in getting, keeping and succeeding at the job as you do yourself.

Expect an initial period of difficulty when starting a new job. There will be a number of weeks during which your personal agendas will be disrupted while you're getting used to the new hours, the new workplace, transportation problems and other sorts of home responsibilities that must be scheduled around the job. But know that while you are going through these difficulties and adjustments, that the difficult period will cease as the adjustments are made. It will become easier a month from now to live around the requirements of your job than it is today. Give yourself and the job the benefit of the doubt. Make no radical decisions until you've been on the job at least one month.

I would recommend the first thing you do on a new job is to set up a communication network. Here we go with that network word again, but networks really do help. Try to figure out not only what the organization chart to the place is, but what the real responsibility chart is. They may or may not be the same.

In almost every single work place, one of the key people to get to know and to have on your side is the boss's secretary. Why? Because work flow, communication flow and information flow around the company can be largely controlled by this one person. This one person on your side can help you time your requests for raises just right or postpone them for a day if things don't look good. This one person can advise you on how to handle certain other people in the company who have their own personality quirks.

Another person who is very good to get to know is the person who handles the personnel records, the timesheet person,

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the one who computes the psychecks and the expense checka. This may be the boss'sa secretarv again, but in most companiea it's yet another peraon that you should get to know well.

Beware of the persons who rush right up to you when you first appear on the scene and try to make cloae friends with you. Be friendly, be responsive, but don't throw in with anybody just yet. Often the people who are on the outs because they don't do their work, or because they complain all the time, feel isolated. They see hope in getting someone new rallied to their side. Such people turn on the charm and rush to the new person, hoping to recruit an ally. You can be doing yourself some damage by throwing in with such persons before you know exactly what the situation is. So resist the temptation to establish an extremely close good buddy right off the bat.

Many people complain about their work assignments as being boring or not challenging enough. They complain to their buddies, but not to the person who can do something about it. If you are on your job for a time and it's a very low-level entry assignment, and you have decided that you've learned everything you can possibly learn about putting stamps on envelopea or whatever it is you are doing, make that known to your superviaora. Not in a complaining sort of way, but in a way that indicates that you're willing to move on and learn other thinga as soon as they can find a place for you.

Unless you give your supervisors such indications, they may think that you are as happy as can be in this dumb little job and may actually start looking about for someone else to put in the other jobs. In other worda, if you have adjustments you want made in any work assignment or condition, you have no cause for complaint unless you have made that request to the peraon or persona who can actually do something about it.

When a crisis developa on a new job (and it's likely to do so, sometimes during the first 30 daya), an immediate reaction can be to say "To hell with this place" and walk out. After all, you've been having some difficulties, you weren't feeling entirely comfortable with the place and

then something bad happens. That something bad could be another employee jumping all over you and giving you a bad time, a supervisor barking at you or being impatient, a piece of machinery breaking down or almost anything. But usually it's an interpersonal conflict.

Realize that you are going through an adjustment period on this job. Your nerves are a little bit more raw than they might be otherwise. Moreover, the people around you are going through a period of adjustment to you. Since they are only human, they may not always resemble the picture of perfect patience. They must be allowed their human feelings, too.

During at least the first 30 days on a new job, I would make a rule with myself that no matter what happens I'm not going to say or do anything in response to an event or words that I can't back out of. I might be absolutely furious and have no intention of ever working at this place but my contract with myself prevents me from saying that until I've had a chance to go home, sit down, put my feet up, and think about it after I've cooled off.

The first 30 days and sometimea a longer period on a new job is a rough honeymoon. It's a rough one everybody concerned because it's a high stress situation. You'll find it on any psychologist's list that identifies high stress situations. High expectations, low delivery compared to those expectations. Give it a chance. Things work out. If, at the end of 30 daya, it looks like this place just is not going to work out, then I would strongly recommend that you start looking about for other work, using the telephone again while hanging on to this job and its paycheck.

# Sources Of Career Information 6

Government agencies, professional societies, trade associations, labor unions, corporations, and educational institutions put out a great deal of free or low-cost career material. Other organizations that publish career information are listed in directories in your library's reference section. One of the largest directories is Encyclopedia of Associations (Detroit: Gale Research Company), a multi-volume publication that lists thousands of trade associations, professional societies, labor unions, and fraternal and patriotic organizations. There are dozens of other directories, however. Ask the librarian for help in locating directories that list:

- trade associations;
- professional associations;
- business firms;
- community and junior colleges;
- colleges and universities;
- home study and correspondence programs; and
- business, trade, and technical schools.

Lists of organizations that distribute career information may also be found in books and directories put out by several commercial publishers.

A Counselor's Guide to Occupational Information, published by the U.S. Department of Labor, identifies pamphlets, brochures, monographs, and other career guidance publications prepared by Federal agencies. An invaluable resource for students and job-seekers as well as for counselors. A Counselor's Guide can be purchased for \$4.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Orders should include the GPO stock number, 029-001-02490-8.

The National Audiovisual Center, a central source for all audiovisual material produced by the U.S. Government, provides lists of free materials in a number of subject areas, including career education. Contact the National Audiovisual Center, General Services Administration, Reference Section/PR, Washington, D.C. 20409. Phone: (301) 763-1896.

Carefully assess any career materials you obtain. In particular, keep in mind the date and source. Material that is too

old may contain obsolete or even misleading information. Be especially cautious about accepting information on employment outlook that is more than five years old. The source is important because it affects the content. Although some occupational materials are produced solely for the purpose of objective vocational guidance, others are produced for recruitment purposes. You should be wary of biased information, which may tend to leave out important items, overglamorize the occupation, overstate the earnings, or exaggerate the demand for workers.

Libraries, career centers, and guidance offices are important sources of career information. Thousands of books, brochures, magazines, and audiovisual materials are available on such subjects as occupations, careers, self-assessment, and job hunting. Your school library or guidance office is likely to have some of this material; ask the staff for help. Collections of occupational materials also can be found in public libraries, college libraries, learning resource centers, and career counseling centers.

Begin your library search by looking in an encyclopedia under "vocations" or "careers," and then look up specific fields. The card catalog will direct you to books on particular careers, such as architect or plumber. Be sure to check the periodical section, too. You'll find trade and professional magazines and journals in specific areas such as automotive mechanics or interior design. Some magazines have classified advertising sections that list job openings. Many libraries and career centers have pamphlet files for specific occupations. Collections of occupational information may also include nonprint materials such as films, filmstrips, cassettes, tapes, and kits. Computerized occupational information systems enable users to obtain career information instantly. In addition to print and nonprint materials, most career centers and guidance offices offer individual counseling, group discussions, guest speakers, field trips, and career days.

Counselors play an important role in providing career information. Vocational testing and counseling are available in a number of places, including:

guidance offices in high schools;

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- career planning and placement offices in colleges;
- placement offices in vocational schools;
- vocational rehabilitation services offered by community organizations, commercial firms, and professional consultants; and
- job service offices affiliated with the U.S. Employment Service.

The reputation of a particular counseling agency should be checked with professionals in the field. As a rule, counselors will not tell you what to do. Instead, they are likely to administer interest inventories and aptitude tests; interpret the results; talk over various possibilities; and help you explore your options. Counselors are familiar with the job market and also can discuss entry requirements and costs of the schools, colleges, or training programs that offer preparation for the kind of work in which you are interested. Most important of all, a counselor can help you consider occupational information in relation to your own abilities, aspirations, and goals.

Don't overlook the importance of personal contacts. Talking with people is one of the best ways of learning about an occupation. Most people are glad to talk about what they do and how well they like their jobs. Have specific questions lined up; you might question workers about their personal experience and knowledge of their field. By asking the right questions, you will find out what kind of training is really important, how workers got their first jobs as well as the ones they're in now, and what they like and dislike about the work. These interviews serve several purposes: you get out into the business world, you learn about an occupation, you become familiar with interviewing, and you meet people worth contacting when you start looking for a job.

State occupational information coordinating committees can help you find information about the job situation in your State or area. The committee may provide the information directly, or refer you to other sources. In many States, it can also tell you where you can go to use the State's career information system. To find out what career materials are available, write to the director of your State occupational informa-

tion coordinating committee. Following are their addresses and telephone numbers.

## Alabama

Director, Alabama Occupational Information Coordinating Committee, First Southern Tower, Suite 402, 100 Commerce Street, Montgomery, Alabama 36130. Phone: (205) 832-5737.

## Alaska

Coordinator, Alaska Occupational Information Coordinating Committee, Pouch F - State Office Building, Juneau, Alaska 99811. Phone: (907) 465-2980.

## Arizona

Executive Director, Arizona State Occupational Information Coordinating Committee, 1535 West Jefferson, Room 345, Phoenix, Arizona 85007. Phone: (602) 255-3680.

## Arkansas

Director, Arkansas State Occupational Information Coordinating Committee, P.O. Box 2981, Little Rock, Arkansas 72203. Phone: (501) 371-3551.

## California

Executive Director, California Occupational Information Coordinating Committee, 1027 Tenth Street, No. 302, Sacramento, California 95814. Phone: (916) 323-6544.

## Colorado

Director, Office of Occupational Information, Colorado Occupational Information Coordinating Committee, 218 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203. Phone: (303) 866-4488.

## Connecticut

Executive Director, Connecticut State Occupational Information Coordinating Committee, 90 Washington Street, First Floor, Hartford, Connecticut 06511. Phone: (203) 566-2502, 2503, 5047, 5699.

#### Delaware

Director, Delaware Occupational Information Coordinating Committee, Drummond Office Plaza, Suite 3303, Building No. 3, Newark, Delaware 19711. Phone: (302) 368-6772.

#### District of Columbia

Executive Director, D.C. Occupational Information Coordinating Committee, 500 C St. NW., Suite 621, Washington, D.C. 20001. Phone: (202) 639-1083.

#### Florida

Director, Florida Occupational Information Coordinating Committee, 124 West Jefferson Street, Tallahassee, Florida 32301. Phone: (904) 224-3660.

#### Georgia

Executive Director, Georgia Occupational Information Coordinating Committee, 501 Pulliam St., SW, Room 339, Atlanta, Georgia 30312. Phone: (404) 656-3117.

#### Hawaii

Executive Director, Hawaii State Occupational Information Coordinating Committee, 830 Punchbowl St., Room 205, Honolulu, Hawaii 96813. Phone: (808) 548-3496.

#### Idaho

Coordinator, Idaho Occupational Information Coordinating Committee, Len B. Jordan Bldg., Room 301, 650 W. State St., Boise, Idaho 83720. Phone: (208) 334-3705.

#### Illinois

Executive Director, Illinois Occupational Information Coordinating Committee, 217 E. Monroe, Suite 203, Springfield, Illinois 62706. Phone: (217) 785-0789.

#### Indiana

Director, Indiana Occupational Information Coordinating Committee, 17 W. Market St., 434 Illinois Bldg., Indianapolis, Indiana 46204. Phone: (317) 232-3625.

#### Iowa

Executive Director, Iowa State Occupational Information Coordinating Committee, 523 E. 12th St., Des Moines, Iowa 50319. Phone: (515) 281-8076.

#### Kansas

Director, Kansas Occupational Information Coordinating Committee, 512 W. Sixth St., Topeka, Kansas 66603. Phone: (913) 296-5286.

#### Kentucky

Coordinator, Kentucky Occupational Information Coordinating Committee, 275 E. Main St., D.H.R. Bldg., 2nd Floor East, Frankfort, Kentucky 40621. Phone: (502) 564-4258.

#### Louisiana

Director, Louisiana State Occupational Information Coordinating Committee, 1000 Science Highway, Baton Rouge, La. 70802. Phone: (504) 342-5149.

#### Maine

Executive Director, Maine State Occupational Information Coordinating Committee, State House Station 71, Augusta, Maine 04333. Phone: (207) 289-2331.

#### Maryland

Executive Director, Maryland Occupational Information Coordinating Committee, Jackson Towers, Suite 304, 1123 N. Eutaw St., Baltimore, Md. 21201. Phone: (301) 383-6350.

#### Massachusetts

Executive Director, Massachusetts Occupational Information Coordinating Committee, One Ashburton Place, Room 2110, McCormack Building, Boston, Massachusetts 02108. Phone: (617) 727-9740.

#### Michigan

Executive Coordinator, Michigan Occupational Information Coordinating Committee, P. D. Box 30015, Lansing, Mich. 48909. Phone: (517) 373-0363.

# WORLD OF WORK

## Minnesota

SOICC Director, Department of Economic Security, 690 American Center Bldg., 150 E. Kellogg Blvd., St. Paul, Minn. 55101. Phone: (612) 296-2072.

## Mississippi

SOICC Director, Vocational Technical Education, P.O. Box 771, Jackson, Mississippi 39205. Phone: (601) 359-3412.

## Missouri

Director, Missouri Occupational Information Coordinating Committee, 421 E. Dunklin St. Jefferson City, Missouri 65101. Phone: (314) 751-3215, -3323.

## Montana

Program Manager, Montana State Occupational Information Coordinating Committee, Room C317, Cosgrove Building, Capitol Complex, Helena, Montana 59620. Phone: (406) 449-2741.

## Nebraska

Executive Director, Nebraska Occupational Information Coordinating Committee, 538 Nebraska Hall, University of Nebraska, Lincoln, Nebraska 68588. Phone: (402) 472-2062.

## Nevada

Director, Nevada Occupational Information Coordinating Committee, Capitol Complex, Kinkead Bldg., Room 601, 505 E. King St., Carson City, Nevada 89710. Phone: (702) 885-4577.

## New Hampshire

SOICC Director, New Hampshire Occupational Information Coordinating Committee, c/o Department of Employment and Training, 155 Manchester St., Concord, New Hampshire 03301. Phone: (603) 271-3156.

## New Jersey

Acting Staff Director, New Jersey Occupational Information Coordinating Committee, P.O. Box CNO56, Trenton, N.J. 08625. Phone: (609) 292-2682.

## New Mexico

Director, New Mexico State Occupational Information Coordinating Committee, 401 Broadway, Albuquerque, New Mexico 87102. Phone: (505) 841-4496.

## New York

SOICC Director, Department of Labor, State Campus Bldg. #12, Room 559A, Albany, New York 12240. Phone: (518) 457-2930.

## North Carolina

SOICC Director, Department of Administration, 112 W. Lane St., 218 Howard Bldg., Raleigh, North Carolina 27611. Phone: (919) 733-6700.

## North Dakota

Director, North Dakota Occupational Information Coordinating Committee, Pinehurst Building, P.O. Box 1537, Bismarck, North Dakota 58505. Phone: (701) 224-2733.

## Ohio

Director, Ohio Occupational Information Coordinating Committee, State Department Bldg., 65 S. Front St., Room 904, Columbus, Ohio 43215. Phone: (614) 466-2095.

## Oklahoma

Executive Director, Oklahoma Occupational Information Coordinating Committee, School of Occupational and Adult Education, Oklahoma State University, 151 W. Sixth Street, Stillwater, Oklahoma 74074. Phone: (405) 377-2000, ext. 311.

## Oregon

Coordinator, Oregon Occupational Information Coordinating Committee, 875 Union St., NE, Salem, Oregon 97311. Phone: (503) 378-8146.

#### Pennsylvania

Director, Pennsylvania Occupational Information Coordinating Committee, Governor's Office of Policy Development, 506 Finance Building, Harrisburg, Pennsylvania 17120. Phone: (717) 787-2086.

#### Puerto Rico

Executive Director, Puerto Rico Occupational Information Coordinating Committee, Poudencio Rivera Martinez Building, 505 Munoz Rivera Ave., Hato Rey, P.R. 00918. Phone: (809) 753-7110.

#### Rhode Island

Executive Director, Rhode Island Occupational Information Coordinating Committee, 22 Haystack St., Room 315, Providence, Rhode Island 02908. Phone: (401) 272-0830.

#### South Carolina

Director, South Carolina Occupational Information Coordinating Committee, 1550 Cadogan St., Columbia, S.C. 29202. Phone: (803) 758-3165.

#### South Dakota

Executive Director, South Dakota Occupational Information Coordinating Committee, 108 E. Mission, Pierre, South Dakota 57501. Phone: (605) 773-3935.

#### Tennessee

Director, Tennessee Occupational Information Coordinating Committee, 512 Cordell Hull Bldg., Nashville, Tennessee 37219. Phone: (615) 741-6451.

#### Texas

Executive Director, Texas Occupational Information Coordinating Committee, Texas Employment Commission Bldg., 15th and Congress Avenue, Room 526T, Austin, Texas 78778. Phone: (512) 397-4970.

#### Utah

Director, Utah Occupational Information Coordinating Committee, 140 Social Hall Ave., Salt Lake City, Utah 84111. Phone: (801) 533-2028.

#### Vermont

Director, Vermont Occupational Information Coordinating Committee, P.O. Box 488, Montpelier, Vermont 05602. Phone: (802) 229-0311.

#### Virginia

SOICC Director, Vocational and Adult Education, Department of Education, P.O. Box 6Q, Richmond, VA. 23216. Phone: (804) 225-2735.

#### Washington

SOICC Director, Commission for Vocational Education, Bldg. 17, Airfield Park, Mail Stop LS-10, Olympia, Washington 98504. Phone: (206) 754-1552.

#### West Virginia

Executive Director, West Virginia State Occupational Information Coordinating Committee, 1600 1/2 Washington St., E., Charleston, West Virginia 25305. Phone: (304) 348-0061.

#### Wisconsin

Director, Wisconsin Occupational Information Coordinating Committee, Educational Sciences Bldg., Room 952, 1025 W. Johnson, Madison, Wisconsin 53706. Phone: (608) 263-1048.

#### Wyoming

Director, Wyoming Occupational Information Coordinating Committee, Hathaway Bldg. - Basement, 2300 Capitol Ave., Cheyenne, Wyoming 82002. Phone: (307) 777-7177 or 7178.

#### American Samoa

Executive Director, American Samoa SOICC, Governor's Office, American Samoa Government, Pago Pago, American Samoa 96799.



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## Guam

Acting Executive Director, Guam Occupational Information Coordinating Committee, P.O. Box 2817, Agana, Guam 96910. Phone: (617) 477-8941.

## Northern Mariana Islands

Executive Director, Northern Mariana Islands Occupational Information Coordinating Committee, P.O. Box 149, Saipan, Northern Mariana Islands 96950. Phone: 7136.

## Trust Territory of the Pacific

Director, Trust Territory of the Pacific Islands, Occupational Information Coordinating Committee, Office of Planning and Statistics, Saipan, Mariana Islands 96950.

## Virgin Islands

Director, Virgin Islands Occupational Information Coordinating Committee, Department of Education, P.O. Box 630, Charlotte Amalie, St. Thomas, Virgin Islands 00801. Phone: (809) 774-0100, ext. 211.

## Sources of Education and Training Information

As a rule, professional or trade associations can provide lists of schools that offer training in a particular field -- operations research, publishing, or arts management, for example. For general information, a library, career center, or guidance office may be the best place to look; all of them ordinarily have collections of catalogs, directories, and guides to educational and job training opportunities. The state career information system available in many states can also provide specific information on where to go for training in various fields. These systems are located in school guidance offices, job service offices, and other places. You can find out about the career information system in your state by writing or calling the state occupational information coordinating committee.

A number of standard handbooks give pertinent information on courses of study, admissions requirements, expenses, and

student financial aid at the Nation's 2-year and 4-year colleges and universities. Publishers include the College Board, Barrons, and Chronicle Guidance, among others. School and public libraries almost always have copies, as do large bookstores. Remember that these directories are updated and revised frequently; be sure to use the most recent edition. Libraries and guidance offices often have collections of college catalogs as well.

Information on private trade and technical schools is available from the National Association of Trade and Technical Schools (NATTS). Single copies of two of their publications, Handbook of Trade and Technical Careers and Training and How to Choose a Career and a Career School, can be obtained from NATTS at 2021 K St. NW, Washington, D.C. 20006. Phone: (202) 296-8892.

The National Home Study Council supplies information about home study programs. They distribute Directory of Accredited Home Study Schools (free) and There's a School in Your Mail Box (\$5.00, including postage). Requests for these publications should be directed to National Home Study Council, 1601 18th St. NW, Washington, D.C. 20009. Phone: (202) 234-5100.

Labor unions and school guidance offices can provide information about apprenticeships. Local Job Service offices usually have at least one counselor familiar with apprenticeship programs in the area. In some cities, Apprenticeship Information Centers (AIC's) affiliated with the U.S. Employment Service, furnish information, counseling, and aptitude testing, and direct people for more specific help to union hiring halls, Joint Apprenticeship Committees, and employer sponsors. The local Job Service can tell you whether there's an AIC in your community. The U.S. Department of Labor's Bureau of Apprenticeship and Training has prepared several pamphlets that provide background information on apprenticeship. These may be requested from: Office of Information, Inquiries Unit, Employment and Training Administration, U.S. Department of Labor, Room 10225, 601 D. St. NW, Washington, D.C. 20213. Phone: (202) 376-6730.



# Labor Market Information 7

All 50 States and the District of Columbia develop detailed information about the labor market. Typically, state agencies publish reports that deal with future occupational supply, characteristics of the work force, changes in state and area economic activities, and the employment structure of important industries. For all States, and for nearly all Standard Metropolitan Statistical Areas (SMSA's) of 50,000 inhabitants or more, data are available that show current employment as well as estimated future needs. Each state issues a report covering current and future employment for hundreds of industries and occupations. In addition, major statistical indicators of labor market activity are released by all the states on a monthly, quarterly, and annual basis. For information on the various labor market studies, reports, and analyses available in a specific state, contact the chief of research and analysis in the state employment security agency. Titles, addresses, and telephone numbers are as follows:

## Alabama

Chief, Research and Statistics, Department of Industrial Relations, Industrial Relations Bldg., Room 427, 649 Monroe St., Montgomery, Alabama 36130. Phone: (205) 832-5263.

## Alaska

Chief, Research and Analysis, Employment Security Division, Department of Labor, P.O. Box 1149, Juneau, Alaska 99811. Phone: (907) 465-4502.

## Arizona

Chief, Labor Market Information, Research and Analysis, Department of Economic Security, P.O. Box 6123, Phoenix, Arizona 85035. Phone: (602) 255-3616.

## Arkansas

Assistant Director, Research and Analysis, Employment Security Division, P.O. Box 2981, Little Rock, Arkansas 72203. Phone: (501) 371-1541.

## California

Chief, Employment Data and Research Division, Employment Development Department, P.O. Box 1679, Sacramento, California 95814. Phone: (916) 445-4434.

## Colorado

Chief, Research and Development, Division of Employment and Training, Department of Labor and Employment, 1278 Lincoln St., Denver, Colorado 80203. Phone: (303) 839-5833, ext. 43.

## Connecticut

Director, Research and Information, Employment Security Division, Department of Labor, 200 Folly Brook Blvd., Wethersfield, Connecticut 06109. Phone: (203) 641-4280.

## Delaware

Chief, Office of Planning, Research and Evaluation, Department of Labor, University Plaza Complex Office, Chapman Road, Route 273, Newark, Delaware 19711. Phone: (302) 368-6962.

## District of Columbia

Chief, Labor Market Information, Department of Employment Services, 500 C Street, NW, Room 411, Washington, D.C. 20001. Phone: (202) 724-2414.

## Florida

Director, Research and Analysis, Division of Labor and Employment Security, Coldwell Building, Tallahassee, Florida 32301. Phone: (904) 488-1048.

## Georgia

Director, Labor Information Systems, Department of Labor, 254 Washington St. S.W., Atlanta, Georgia 30334. Phone: (404) 656-3177.

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## Hawaii

Chief, Research and Statistics, Department of Labor and Industrial Relations, 830 Punchbowl Street, Honolulu, Hawaii 96813. Phone: (808) 548-7639.

## Idaho

Chief, Research and Analysis, Department of Employment, P.O. Box 35, Boise, Idaho 83735. Phone: (208) 384-2755.

## Illinois

Director, Research and Analysis Division, Bureau of Employment Security, Department of Labor, 910 S. Michigan Ave., Chicago, Illinois 60605. Phone: (312) 793-2317.

## Indiana

Chief of Research and Land Statistics, Employment Security Division, 10 N. Senate Avenue, Indianapolis, Indiana 46204. Phone: (317) 232-7701.

## Iowa

Chief, Audit and Analysis, Department of Job Service, 1000 E. Grand Avenue, Des Moines, Iowa 50319. Phone: (515) 281-5802.

## Kansas

Chief, Research and Analysis, Department of Human Resources, Department of Labor, 401 Topeka Ave., Topeka, Kansas 66603. Phone: (913) 296-5058.

## Kentucky

Manager, Labor Market Research and Analysis, Department of Manpower Services, Cabinet for Human Resources, 275 E. Main St., Frankfort, Kentucky 40621. Phone: (502) 564-7976.

## Louisiana

Chief, Research and Statistics, Department of Labor, P.O. Box 44094, Capitol Station, Baton Rouge, Louisiana 70804. Phone: (504) 342-3141.

## Maine

Director, Research and Analysis, Bureau of Employment Security, 20 Union St., Augusta, Maine 04330. Phone: (207) 289-2271.

## Maryland

Director, Research and Analysis, Department of Human Resources, 1100 N. Eutaw St., Baltimore, Maryland 21201. Phone: (301) 383-5000.

## Massachusetts

Director, Job Market Research, Division of Employment Security, Hurley Bldg., Government Center, Boston, Massachusetts 02114. Phone: (617) 727-6556.

## Michigan

Director, Research and Statistics Division, Employment Security Commission, 7310 Woodward Ave., Room 516, Detroit, Michigan 48202. Phone: (313) 876-5445.

## Minnesota

Director, Research and Statistical Service, Department of Economic Security, 390 N. Robert St., St. Paul, Minn. 55101. Phone: (612) 296-6545.

## Mississippi

Chief, Research and Statistics, Employment Security Commission, P.O. Box 1699, Jackson, Mississippi 39205. Phone: (601) 961-7424.

## Missouri

Chief, Research and Statistics, Division of Employment Security, P.O. Box 59, Jefferson City, Missouri 65104. Phone: (314) 751-3215.

## Montana

Chief, Research and Analysis, Employment Security Division, Department of Labor and Industry, P. O. Box 1728, Helena, Montana 59601. Phone: (406) 449-2430.

### Nebraska

Chief, Research and Statistics, Division of Employment, Department of Labor, P.O. Box 94600, State House Station, Lincoln, Nebraska 68509. Phone: (402) 475-8451.

### Nevada

Chief, Employment Security Research, Employment Security Department, 500 E. Third St., Carson City, Nevada 89713. Phone: (702) 885-4550.

### New Hampshire

Director, Economic Analysis and Reports, Department of Employment Security, 32 S. Main St., Concord, N.H. 03301. Phone: (603) 224-3311, ext. 251.

### New Jersey

Director, Division of Planning and Research, Department of Labor, P.O. Box 2765, Trenton, N.J. 08625. Phone: (609) 292-2643.

### New Mexico

Chief, Research and Statistics, Employment Services Division, P.O. Box 1928, Albuquerque, N. Mex. 87103. Phone: (505) 841-8645.

### New York

Director, Research and Statistics, Department of Labor, State Campus, Bldg. 12, Albany, New York 12240. Phone: (518) 457-6181.

### North Carolina

Director, Labor Market Information, Employment Security Commission, P.O. Box 25903, Raleigh, N.C. 27611. Phone: (919) 733-2936.

### North Dakota

Chief, Research and Statistics, Employment Security Bureau, P.O. Box 1537, Bismarck, North Dakota 58505. Phone: (701) 224-2868.

### Ohio

Director, Research and Statistics, Bureau of Employment Services, 145 S. Front Street, Columbus, Ohio 43215. Phone: (614) 466-3240,

### Oklahoma

Chief, Research and Planning Division, Employment Security Commission, 310 Will Rogers Memorial Office Bldg., Oklahoma City, Oklahoma 73105. Phone: (405) 521-3735.

### Oregon

Assistant Administrator, Research and Statistics, Employment Division, Department of Human Resources, 875 Union St. N.E., Salem, Oregon 97311. Phone: (503) 378-3220.

### Pennsylvania

Chief, Research and Statistics, Department of Labor and Industry, 7th and Foster Sts., Harrisburg, Pa. 17121. Phone: (717) 787-3265.

### Puerto Rico

Chief, Department of Labor and Human Resources, Bureau of Employment Security, 505 Munoz Rivera Avenue, 15th Floor, Hato Rey, P.R. 00917. Phone: (809) 751-3737.

### Rhode Island

Supervisor, Employment Security Research, Department of Employment Security, 24 Hason St., Providence, R.I. 02903. Phone: (401) 277-3704.

### South Carolina

Director, Manpower Research and Analysis, Employment Security Commission, P.O. Box 995, Columbia, S.C. 29202. Phone: (803) 758-8983.

### South Dakota

Chief, Research and Statistics, Office of Administrative Services, Department of Labor, P.O. Box 730, Aberdeen, S. Dak. 57401. Phone: (605) 622-2314.

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## Tennessee

Chief, Research and Statistics, Department of Employment Security, 519 Cordell Hull Bldg., 436 Sixth Avenue, North, Nashville, Tennessee 37219. Phone: (615) 741-2284.

## Texas

Chief, Economic Research and Analysis, Employment Commission, 15th and Congress Avenue, Austin, Texas 78778. Phone: (512) 397-4540.

## Utah

Director, Research and Analysis, Department of Employment Security, P.O. Box 11249, Salt Lake City, Utah 84147. Phone: (801) 533-2014.

## Vermont

Chief, Research and Statistics, Department of Employment Security, P.O. Box 488, Montpelier, Vermont 05602. Phone: (802) 229-0311.

## Virginia

Chief, Research and Analysis, Employment Commission, P.O. Box 1358, Richmond, Virginia 23211. Phone: (804) 786-3001.

## Washington

Chief, Research and Statistics, Employment Security Department, 212 Maple Park, Olympia, Washington 98504. Phone: (206) 753-5224.

## West Virginia

Chief, Division of Labor and Security, Department of Employment Security, 112 California Ave., Charleston, West Virginia 25305. Phone: (304) 348-2660.

## Wisconsin

Chief, Labor Market Information, Department of Industry, Labor and Human Relations, P.O. Box 7944, Madison, Wisconsin 53707. Phone: (608) 266-5843.

## Wyoming

Chief, Research and Analysis, Employment Security Commission, P.O. Box 2760, Casper, Wyoming 82602. Phone: (307) 237-3701.

# Special Group Career Information 8

Certain groups of jobseekers face special difficulties in obtaining suitable and satisfying employment. All too often, veterans, youth, handicapped persons, minorities, and women experience difficulty in the labor market. The reasons for disadvantage in the job market vary, of course. People may have trouble setting career goals and looking for work for reasons as different as a limited command of English, a prison record, or lack of self-confidence. Some people are held back by their background -- by growing up in a setting that provided only a few role models and little exposure to the wide range of opportunities in the world of work.

A growing number of communities have career counseling, training, and placement services for people with special needs. Programs are sponsored by a variety of organizations, including churches and synagogues, nonprofit organizations, social service agencies, the Job Service, and vocational rehabilitation agencies. Some of the most successful programs provide the extensive counseling that disadvantaged jobseekers require. They begin by helping clients resolve the personal, family, or other fundamental problems that prevent them from finding a suitable job. Some agencies that serve special groups take a strong interest in their clients, and provide an array of services designed to help people find and keep jobs.

Employment counseling programs of all kinds are included in Directory of Counseling Services, an annual publication that lists accredited or provisional members of the International Association of Counseling Services, Inc. (IACS), an affiliate of the American Personnel and Guidance Association. The 1981-82 edition is available for \$6 (including postage) from IACS at Suite 307, 5999 Stevenson Avenue, Alexandria, VA 22304. Phone: (703) 823-9800. The next edition, covering 1983-84, is expected to come out early in 1985.

Women's centers are an excellent resource for women seeking employment and counseling on specific problems that women face in the labor market. Many of these centers are located on campuses of community and junior colleges and universities. Although some have a strong academic slant, many have outreach programs designed to pro-

vide services to all women in the community. Women's centers are also operated by community organizations. Many of these centers have an emphasis on nontraditional jobs for women, and almost all provide information and referral services.

Most states, and many cities and counties, have commissions or councils for women, many of which are actively engaged in improving employment opportunities for women in their area. A number of commissions have prepared resource directories for women, and a few operate employment or counseling programs.

Resource materials for women abound. Recent examples include Directory of Special Opportunities for Women, Job Options for Women in the 80's and Suit Yourself...Shopping for a Job. The Directory, published in 1981 by Garrett Park Press (Garrett Park, Maryland), lists sources of career training, financial aid, and other assistance for women entering or reentering the labor force. Look for it in a library, guidance office, or counseling center. Job Options, a 1980 publication of the Women's Bureau of the U.S. Department of Labor, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The price is \$3.50, and the GPO stock number is 029-002-00059-2. Suit Yourself was published in 1980 by Wider Opportunities for Women (WOW), a national nonprofit women's employment organization. It can be purchased for \$7.50 (includes postage) from WOW, 1325 E St. NW, Washington, D.C. 20005. Phone: (202) 638-3143.

Directory of Special Programs for Minority Group Members: Career Information Services, Employment Skills Banks, Financial Aid Sources (Garrett Park, Md.: Garrett Park Press), now in its third edition, lists thousands of educational, career, and other services and programs that help minority group members in their educational and career advancement. Look for the 1980 edition in libraries, guidance offices, and counseling centers. Career information for minority group members also appears in specialized magazines including The Black Collegian.

Employment counseling and placement services for older workers have been established in some communities. The area agency on aging can tell you whether there is a senior employment program in your com-

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munity. Local offices of the state employment service may be helpful, too.

Several agencies of the Federal Government publish pamphlets on career opportunities and job-hunting techniques that may interest counselors working with special groups. Much of this material is free. Requests for career materials currently in stock may be directed to:

## Handicapped

President's Committee on Employment of the Handicapped, Room 600, Vanguard Building, 1111 20th St. N.W., Washington, D.C. 20036. Phone: (202) 653-5157.

President's Committee on Mental Retardation, Room 4057, North Building, 330 Independence Avenue, SW, Washington, D.C. 20201. Phone: (202) 245-7524.

Rehabilitation Services Administration, U.S. Department of Education, Room 3523, 330 C St. S.W., Washington, D.C. 20202. Phone: (202) 732-1282.

Office of Personnel Management, Federal Job Information Center, P.O. Box 52, Washington, D.C. 20044. Phone: (202) 737-9616.

## Older Workers

Office of Information, Inquiries Unit, Employment and Training Administration, U.S. Department of Labor, Room 8100, 601 D St. N.W., Washington, D.C. 20213. Phone: (202) 376-6750.

## Women

Women's Bureau, U.S. Department of Labor, Room S-3005, 200 Constitution Ave. N.W., Washington, D.C. 20210. Phone: (202) 523-6668.

## Veterans

Office of Information, Inquiries Unit, Employment and Training Administration, U.S. Department of Labor, Room 10225, 601 D St. N.W., Washington, D.C. 20213. Phone: (202) 376-6750.

Office of Personnel Management, Federal Job Information Center, P.O. Box 52, Washington, D.C. 20044. Phone: (202) 737-9616.

Department of Veterans Benefits (232A), Veterans Administration Central Office, 810 Vermont Ave., N.W., Washington, D.C. 20420. Phone: (202) 389-3227.

Federal laws, Executive Orders, and selected Federal grant programs bar discrimination in employment based on race, color, religion, sex, national origin, age, and handicap. Employers in the private and the public sectors, Federal contractors, and grantees are covered by these laws. The U.S. Equal Employment Opportunity Commission (EEOC) is responsible for administering many of the programs that prohibit discrimination in employment. Information about how to file a charge of discrimination is available from local EEOC offices around the country (their addresses and telephone numbers are listed in telephone directories under U.S. Government EEOC) or from:

Equal Employment Opportunity Commission, 2401 E St. N.W., Washington, D.C. 20506. Phone: (202) 634-6930.

Information on Federal laws concerning fair labor standards - including the minimum wage law - and equal employment opportunity can be obtained from the Office of Information and Consumer Affairs, Employment Standards Administration, U.S. Department of Labor, Room C-4331, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

